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"Scire est nescire, nisi id me
Scire alius sciret."

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RECENT WORK ON LEUKÆMIA AND SOME ALLIED AFFECTIONS.

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BY

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MY first and most pleasing duty is to return my grateful thanks to the members of this Society for the honour they have conferred upon me by electing me their President for the year. It is an honour which I appreciate very highly, and more especially because my father occupied this chair before me just upon thirty years ago. Under such circumstances, it is inevitable that one's thoughts should go backwards for a generation, and consider the changes that have taken place in the art and practice of medicine during that period. So that in searching for a suitable subject for this address, it naturally occurred to me to select a group of diseases in which medicine has greatly advanced during recent years, about which comparatively little was known thirty years ago, and also one of which I have had sufficient personal experience.

I intend, therefore, to take the subject of leukæmia, and one or

two affections allied to it. Great advances have been made in our knowledge of these diseases in the last few years, obscure as in many respects they still are.

I may be permitted to give a brief summary of the history of leukæmia. Virchow first clearly recognised the characteristic features of the disease in 1845, although just before him J. Reid and Hughes Bennett had described a condition *post mortem* which, according to the latter, was fatal "from suppuration of the blood."[1] According to the association of the blood-change either with an enlarged spleen or enlarged lymphatic glands, leukæmia was divided into (1) the splenic, and (2) the lymphatic varieties. The next step was made by the important discovery by Neumann of the origin of the leucocytes in the bone-marrow. He also held the view, which is becoming generally accepted at the present day, that the bone-marrow is affected in all cases of leukæmia. As a result of his discovery and its immediate bearings on leukæmia, to the original varieties were added two more, (3) the spleno-medullary, and (4) the myelogenic forms. A further step in advance was due to the introduction of staining methods for blood films, and thereby the differentiation of the various forms of leucocyte, by Ehrlich.

The diagnosis of the leukæmic blood-condition was originally based on the numerical increase of the white cells and their proportion to the reds. The more thorough examination of the blood in all kinds of diseases led to the discovery of the occurrence of leucocytosis under various conditions, and this produced fresh difficulty, for on the basis only of numerical increase of leucocytes it is impossible to separate the higher grades of leucocytosis from leukæmia, especially from those cases of leukæmia in which the actual number of leucocytes is not greatly increased. By Ehrlich's work, however, the diagnosis of leukæmia was established on the characters of the cells present, and the characteristic features of the leukæmic blood-picture demonstrated. He distinguished two distinct forms of the disease, characterised by the kind of cell predominating in the blood. The old distinction of the splenic and lymphatic forms, based on the changes found in the organs clinically and *post mortem*, gave way to one based on the characters

of the blood-picture solely, and hence myeloid and lymphatic leukæmia were differentiated. From the views of Ehrlich as to the production of myelocytes, and generally of cells with granules in their protoplasm by the marrow, and of lymphocytes or non-granular cells generally by the lymphatic glands and spleen, which functions of the marrow and of the lymphatic glands he further considered to remain constant throughout adult life, so that myelocytes and granular cells were never produced in the lymphatic apparatus, and *vice versa*, myeloid leukæmia was regarded as having its origin in disease of the bone-marrow, and lymphatic leukæmia in the lymphatic glands. Recent work, and especially the discovery of cases of lymphatic leukæmia with lesions limited to the marrow, has, however, shown that the latter distinction can no longer be regarded as a constant one, and perhaps for a time too exclusive attention in diagnosis had been paid to the characters of the blood, and to preconceived theories of the seat of origin of the leucocytes, and not enough to the actual changes in the organs. The tendency of late has been to attach less importance to the precise seat of the pathological changes, but a right understanding of the disease can, of course, only be obtained by careful correlation of all its features.

As you know, two forms of leukæmia can easily be distinguished by the striking differences in the hæmatological details, clinical signs, and pathological changes, which are present in typical cases of each, namely (1) myeloid, myelocytic leukæmia (myelæmia), and (2) lymphocytic, lymphoid, or lymphatic leukæmia (lymphæmia).

Either of these varieties may occur in an acute or chronic form. Chronic myelocytic leukæmia is more common than the chronic lymphoid variety, and we might, therefore, expect that the acute myelocytic form would also be more frequent than the acute lymphocytic, but this is not the case. Indeed, the recognition of acute myelocytic leukæmia has only been recently accomplished, and until lately the existence of such a form was denied by many authorities. The distinction of typical cases of the two varieties presents no difficulty, the blood-picture and the histological changes in the tissues being entirely different. In

atypical cases, however, and especially in certain cases of the acute variety, the difficulty of distinction may be great, but it will be better to defer the consideration of this question until we come to deal more especially with acute leukæmia.

The following table, to which I have appended the corresponding blood changes, gives a summary of the pathologico-anatomical changes in myeloid and lymphatic leukæmia respectively, and is taken from an article by Fabian, Naegeli and Schatiloff.[2]

Myeloid Leukæmia.	Lymphatic Leukæmia.
Marrow.—Hyperplasia of the tissue of the bone-marrow at the expense of the fatty marrow; myeloid growth; the ordinary loose cell-structure with abundant capillaries, and rich reticulum remains unaltered, as well as the formation of erythrocytes.	Growth of lymphoid tissue, resulting in a close lymphoid tissue, at first in nodules, then diffusely, in which remains of myeloid tissue are present, or have altogether disappeared. Capillary vessels and erythro-poietic areas scanty.
Spleen.—Collections of myeloid tissue start in the splenic pulp, spread through it, and cause a contraction or disappearance of the follicles, resulting in a "myeloid spleen."	Growth of lymphadenoid tissue; increase in size of the follicles, and gradual replacement of splenic pulp by lymphoid tissue.
Liver.—Extensive myeloid growth, partly intra-capillary, by which the liver-cells are compressed, and may disappear, partly in intra-acinous tissue, perivascular, in form of streaks or bands, never rounded or like follicles; occasionally slight extra-acinous growth.	Growth of lymphoid tissue, which is exclusively intra-acinous, and often very sharply defined.
Lymph glands.—A growth of myeloid tissue which at first leaves the follicles intact, and often shows only slight adventitious areas centrally, but finally the whole gland may undergo a myeloid transformation with disappearance of the follicles.	Growth of lymphoid tissue occurs, which in the end changes the gland into a structureless collection of lymphatic cells, in which the remains of the follicles can often scarcely be recognised.

The authors could not satisfy themselves in any instance that a direct transformation of lymphoid tissue, including lymphatic follicles, into myeloid tissue occurred, or *vice versa*.

Blood.—The changes in the blood-picture can be best seen from the slides which I show. They are all too well known to render it necessary for me to describe them in detail. Briefly, the chief feature in myeloid leukæmia is the presence in great, often enormous numbers, of neutrophil myelocytes, of eosinophil myelocytes, and of mast cells; the neutrophil myelocytes may vary in number from 10—80 per cent. of the leucocytes present. Normoblasts are present, generally in considerable, often in large numbers, and also megaloblasts. There are also present cells like the large lymphocytes of acute lymphatic leukæmia. The red cells show generally a moderate reduction in number, with a corresponding fall in hæmoglobin. In lymphoid leukæmia the chief characteristic is the great increase in the lymphocytes, or mononuclear non-granular cells. The total leucocyte count may vary from 30,000—550,000 to c.mm. (Pinkus), and of these the lymphocytes constitute from 90—99 %. Two forms of lymphoid leukæmia can be clinically distinguished according as the cells present consist of (1) small, or (2) large lymphocytes (using the term lymphocyte provisionally for the moment). A few myelocytes are generally seen. The erythrocytes may show a moderate decrease, but in acute cases the fall in the reds is often rapid and extreme, even to a number of less than 1,000,000 to c.mm. The hæmoglobin is often disproportionately reduced, so that the colour index is less than 1. In some cases there are not many normoblasts; in others normoblasts are very numerous, with marked changes in their nuclei and megaloblasts are present. According to McCrae,[3] however in forty cases taken from the literature the number of red cells was low, and the colour index high in a large proportion of them, and in many cases there were many nucleated reds.

We may consider chronic myelocytic leukæmia first, as there is less difference of opinion about its nature and mode of origin. The origin of this form of leukæmia in the bone-marrow is now generally accepted, since the myelogenous origin of the myelocytes which characterise the blood-picture was established by Ehrlich. In some cases, however, the extent of the myeloid changes in the lymphoid tissues of the body make it possible that the marrow is

not always the sole source: for instance, Fabian, Naegeli, and Schatiloff[4] look upon the spleen as the organ most constantly and almost invariably affected in all forms of leukæmia.

As to the nature of the change in the marrow, if as Ehrlich holds the myelocytes in the blood are identical with the myelocytes which are normally present in the marrow, and are the precursors of the polymorphonuclear leucocytes, then the change in the marrow must be looked upon as a kind of hyperplasia, and myelocytic leukæmia as a specific and essential disease of the marrow. The change in the marrow and the passing out from it of myelocytes into the blood is proved, but that the myelocytes found in the blood and organs are cells normal to the marrow ("unripe" cells) is not yet certain. Schur,[5] for instance, looks on the myelocytes of leukæmia as abnormal cells derived from a diseased marrow, and advances the well-known facts that in cases of myeloid leukæmia, in which an intercurrent infective disease occurs, myelocytosis may give way to an ordinary (polymorphonuclear) leucocytosis, and that in cases, *e.g.* of pneumonia, which are ordinarily accompanied by pronounced leucocytosis, the presence of myelocytes is altogether exceptional, so that stimulation of the marrow does not under ordinary conditions give rise to the passage of myelocytes into the blood, but quite regularly of polymorphonuclears. Against this, however, may be set the observations of a myelocytosis in certain anæmic conditions, and especially in septicæmia, in which in one case Naegeli found 20 per cent. of myelocytes.[6]

That the ordinary functions of the marrow can be performed in myelocytic leukæmia is shown by the occurrence of a normal leucocytosis in intercurrent infective disorders, and also by the absence as a rule of very profound anæmia. That it is undergoing some abnormal stimulation, and that cells, ordinarily confined to the marrow and normal to it, pass into the blood is also shown by the number of normoblasts and megaloblasts often present in the latter.

How do the myelocytes pass into the blood? Such passage of leucocytes into the blood is seen as a normal function of the marrow in an ordinary leucocytosis, and if we take the view that

the myelocytes are precursors of the polymorphonuclears, these may be supposed to pass in the same way. Ehrlich states that both neutrophil and eosinophil myelocytes have the power of amœboid movement, and wander into the blood in myeloid leukæmia, looking on the process as an active leucocytosis. Such a leucocytosis might take place through chemiotaxis. Pappenheim, however, considers that the myelocytes are forced into the blood-stream by the pressure of the hypertrophied marrow enclosed in its unyielding bony envelope.

The origin of the myeloid tissue, containing myelocytes, in the spleen, liver, glands, and other organs, is a subject of greater difficulty. This process is peculiar to leukæmia, and has no exact pathological analogue in any other disease. Three views are held with regard to it: (1) That the cells originating in the marrow are carried by the blood-stream to the organs affected, lie up in them, and subsequently divide and proliferate; (2) that the myeloid growths in the organs are a development of a myeloid tissue which was previously latent; and (3) that there is a new formation of myeloid tissue in the affected organs, a myeloid metaplasia (Pappenheim).

It is reasonable to suppose that the myeloid formations in the organs—spleen, liver, glands, &c.—depend on the same cause that produces the change in the marrow, but also that in most cases the former are secondary in time to the latter.

As to (2) there is no evidence whatever of myeloid tissue lying latent in the spleen, glands, &c. But there is a modification of this view, namely that lymphoid tissue has the property under certain pathological conditions of undergoing a myeloid transformation. Recent work has rather tended to obliterate the sharp line of distinction until lately held to exist, chiefly on the basis of Ehrlich's views, between the functions of lymphoid and myeloid tissue, and to show that in pathological conditions lymphoid tissue may no longer produce only non-granular cells and lymphocytes and the marrow only granular cells, but that their functions may be interchanged.[7]

Ehrlich, Meyer and Heineke[8] agree in this view so far that the myeloid formation in the glands does not arise from the

lymphocytes of the follicles, but consider that it comes out of other undifferentiated cells, which are similar to the lymphocyte-like cells of the marrow or myeloblasts. I may remark with regard to this, that if it were proved that the myelocytes of myeloid leukæmia were not the normal myelocytes of the marrow, but abnormal cells, they would reasonably be supposed to come from these lymphocyte-like marrow cells or myeloblasts, and in this way the myeloid formations of both marrow and other organs would be brought into line. In this connection it may be observed that Buckmaster[9] has shown that in a case at first regarded as lymphatic leukæmia the large lymphocyte-like cells by careful staining proved to be granular, and to really belong to the class of myelocytes.

Cabot[10] looks upon leucocytic hyperplasia as the essential feature of leukæmia, and thinks that it may begin in any part wherever hæmopoietic or lymphoid tissue exists. He postulates the essential unity of the hæmopoietic system, and that it is not sharply differentiated into myeloid and lymphoid elements; this underlying unity renders comprehensible the myeloid transformation of the glands in myeloid, and the lymphoid transformation of the marrow in lymphatic leukæmia. Reversion to a less specialised type of cell formation takes place, and results, if the marrow type prevails, in bringing the spleen and glands into line by a more or less widespread myeloid transformation; if the lymphoid type prevails, the marrow is brought into line with the lymph glands. He considers this explanation more in harmony with the facts than any theory of metastasis or transplantation of marrow cells or lymphocytes.

It may be pointed out, however, that the ascertained fact is that non-granular cells in the blood can under pathological conditions come from the marrow. That lymphoid tissue in glands, &c., manufactures granular cells and myelocytes is not so certain. The transplantation of lymphoid cells into the marrow is not in question, as it is known to contain lymphoid tissue, and according to Cabot himself the leucoblastic areas in it contain 15 to 20 per cent. of cells indistinguishable from large lymphocytes. On the other hand, whilst lymphoid tissue is

normally widely distributed through the body, myeloid tissue is not found in the spleen, liver and lymph glands under normal conditions; if it were present, we should expect to find myelocytes at any rate occasionally in them. Further, myeloid leukæmia should then be common in children, for in them reversion to a less specialised type of the lymphatic apparatus should more easily occur, especially as there is reason to hold that the marrow in them is worked to its fullest capacity,[11] whereas we know that myeloid leukæmia in infancy and childhood is very rare Again, the myeloid changes in the lymphatic apparatus appear to be more of a secondary character in myeloid than the lymphoid change in the marrow in lymphatic leukæmia. Although, therefore, Cabot's view simplifies the problem of leukæmia, it does not seem to account for all the facts, for which, in the absence of exact knowledge with regard to the etiology of the disease, no one of the present theories gives a complete explanation. Indeed, until the essential cause or causes of leukæmia are known, we cannot expect to fully understand its nature, however extensive and minute our acquaintance with its morbid anatomy may be.

Passing on to lymphocytic, lymphoid or lymphatic leukæmia, there is great difference of opinion as to the nature and origin of the cells found in the blood in certain forms of it. Much stress in the differentiation of different forms of leukæmia has been laid on the morphological characters of cells. It is certain that caution is necessary in basing arguments as to the nature of diseases on minute differences in the histological structure of cells; if this is done, the characters of all parts of the cell, both nucleus and protoplasm, should be taken into consideration. Further, the technique of preparing and staining blood-films allows great variation in individual work, and it is quite possible to obtain divergent results from the same material, as in the case of Buckmaster above quoted.

The cells of the large lymphocyte type are often extremely fragile, easily damaged in preparing a film, and if the total leucocyte count is made by the method of using a weak acetic acid solution many may disappear.[12] In stained films, apart from technique, the recognition of a cell as belonging to one

particular kind is sometimes a matter of opinion. Further, there is the difficulty of good differential staining of the leucocytes in sections of the tissues, though it is hardly necessary to say that no proper pathological diagnosis of leukæmia can be made on blood-films alone without a complete examination of the tissues. These difficulties in investigation and others of a similar kind probably account for some of the discrepant statements about the characters of the cells present in the different forms of leukæmia, and even, perhaps, sometimes for the description of new varieties of the disease.

In lymphatic leukæmia the acute form of the disease is frequent, and we are met at the outset with two questions: (1) What constitutes an acute case? and (2) does the character of the cells present in the blood and of the changes in the organs differ in acute and chronic cases?

The best answer to the first question is that acuteness should rest on the rapidity of the development of the blood-changes. Mere duration is an uncertain criterion. The onset of the disease is often difficult to fix precisely; and if the duration is taken as the criterion of acuteness, Sternberg suggests that it should not exceed four months.

In answer to the second question, many authors have regarded acute as synonymous with large-celled and chronic with small-celled lymphatic leukæmia. This distinction, although it may, perhaps, be taken in a rough way as true, no longer holds good in any exact sense. For example, Forbes and Langmead [13] bring forward four cases in which an acute course was accompanied by an increase of small lymphocytes in the blood, and one chronic case with large lymphocytes.

Cases in which the small lymphocyte is the predominating cell are not very common, and seem to form, at any rate from the blood-picture, a well-marked variety of the disease. The occurrence of intermediate varieties makes it impossible, however, to recognise any essential difference between the small and the large-celled forms. Lymphoid leukæmia differs in an important respect from myeloid, in that lymphoid tissue is generally recognised as widely distributed throughout the body; in most cases

of the disease this tissue is very extensively affected, and hence this form of leukæmia constitutes a systematised disease or affection of one tissue-system throughout the body. The general age incidence is earlier in lymphoid than in myeloid leukæmia.

There are many conditions in which lymphoid tissue undergoes a rapid increase. In infancy and early life it shows a great activity, and diseases of the lymphatic apparatus are correspondingly common. To this activity of the lymphatic apparatus is also partly to be attributed the peculiar feature of the infant's blood, the high lymphocyte count.[14] As a result, lymphatic leukæmia in infancy takes mostly the acute form. Ewing[15] notes the occurrence of lymphocytosis in the secondary anæmia of children and in von Jaksch's anæmia. Pinkus[16] points out that the readiness with which a quiescent lymphoid tissue in any organ passes into a proliferating focus is seen in every inflammation in which an immense round-celled infiltration may arise from traces of lymphadenoid tissue, and further may throw an excess of cells into the lymph circulation. The rapid accumulation of cells which morphologically are identical with lymphocytes is well seen in some acute affections of the central nervous system, *e.g.* acute anterior polio-myelitis. He considers that the formation of lymphocytes is a normal function of every part of the body in response to local inflammatory irritation, and contrasts it with a polymorphonuclear-cell-infiltration or suppuration in which these cells, formed and stored up in the marrow, are rapidly carried by the blood-stream to the affected part.

These and other arguments at first sight lend much support to the old view that lymphocytic leukæmia is due to a widespread hyperplasia of the lymphatic apparatus, varying in degree and extent in different cases, the lymphoid tissue of the marrow being only subordinately affected, together with a peculiar blood state; and I believe this to be the true pathology of a certain number of cases of the chronic, and possibly also of some of the acute form, in which the predominating cell in the blood consists almost entirely of the easily distinguished small lymphocyte. The more chronic the case, as a rule, the more pronounced the enlargement

of the glands. Thus Rosenfeld,[17] in three cases of chronic lymphocytic leukæmia, states that the primary seat of the disease was in the lymph-glands.

Recent work has, however, shown the importance of the part played by the bone-marrow in lymphocytic or lymphatic leukæmia, especially in its acute forms.

In cases of the disease recently reported, in which the condition of the bone-marrow has been investigated, it has been found to be altered—more or less in the manner given in the table above—and in some well-authenticated cases the morbid change has been entirely confined to the bone-marrow. This change may be limited in distribution, as in one very instructive case of Emerson's,[18] which shows the need of a thorough investigation, for in this the marrow of the vertebræ was alone affected, and that of the long bones was healthy. Holst[19] found streptococci in the marrow in three cases of acute lymphatic leukæmia, one of which he considers as distinctly due to a streptococcic infection of the marrow. Pappenheim regards lymphatic leukæmia as a lymphadenoid hyperplasia having its seat in the bone-marrow; he and Wolff say that when the pathological process attacks the lymphatic apparatus only, the blood is unaffected, and the condition is not one of true leukæmia. Drysdale[20] states that the changes may be only in the bone-marrow, or part of it. Cabot[21] gives the following statement: (1) In most if not in all cases of lymphatic leukæmia there is a lymphoid transformation of the marrow; (2) that there is no reason to think that this is a metastasis secondary to the glands; (3) in a certain number of cases the glands and spleen are not enlarged, the changes being in the marrow and blood; and (4) in some cases the glandular enlargement appeared late in the disease. He does not take the above facts as showing the origin of all leukæmias in the marrow, but rather that the whole hæmatopoietic system is involved in every case of leukæmia, the changes sometimes preponderating in the marrow and spleen, sometimes in the glands. Kelly[22] makes the observation that the conception of lymphatic leukæmia as a disease of the marrow does not compel us to derive all the cells (in enormous numbers in many cases) from the marrow itself; in part they may come from

the lymphatic glands. This view seems most in accordance with the facts, as the theory advanced by some writers, that the bone-marrow is the sole source of the disease, leaves unexplained the marked changes present in the glands and lymphatic apparatus generally in the majority of cases.

Allowing that recent observations point to the marrow as affected, the next question is as to the evidence that the marrow can produce lymphocytes, and also that the large mononuclear cells present in lymphocytic leukæmia are true lymphocytes.

The marrow certainly contains lymphadenoid tissue, and this was found enormously increased in many reported cases of lymphatic leukæmia.[1]

According to Hammar,[24] about the beginning of the fourth month of intra-uterine life an infiltration of mononuclear leucocytes begins to appear about the middle of the diaphysis, and extends through the whole bone, so as to give the marrow a lymphoid character. The myelocytes, which can be seen at the fifth month, appear to be developed from these cells. By the end of intra-uterine life the histological differentiation of the marrow would seem to be as complete as in adult life.

The experiments of Flexner[25] are important in this connection. He prepared two cytotoxic serums—lymphotoxin and myelotoxin. On injecting myelotoxin, the marrow responded with an increased production of granular leucocytes and myelocytes. On injecting lymphotoxin, there was an increase of lymphocytes and non-granular mononuclears in the marrow.

The marrow, therefore, not only contains lymphadenoid tissue, but can also produce non-granular mononuclear cells, although it is probably not concerned in the production of lymphocytes in health. The second part of the question is one about which there is most controversy. About the small lymphocytes in the less common forms of lymphatic leukæmia there is little doubt; they correspond to the small lymphocytes normally present in the blood,

[1] We must note in passing, however, that Veszprémi,[23] in a careful investigation, including fibrin-staining methods, of a case of acute leukæmia, comes to the conclusion that a network of fibrin has been mistaken for lymphadenoid tissue in the marrow by authors who describe it as hypertrophied.

and may be taken to originate, like them, in the lymph-glands. But with regard to the large cells, which make up the blood-picture of the leucocytes in the majority of cases of the disease, it is more than doubtful whether they correspond at all to large lymphocytes in the ordinary sense, and whether they are normal cells of the blood.

Ehrlich's conception, which is apparently well founded for the normal adult life, that the marrow produces granular cells only and the lymphatic glands and spleen non-granular (lymphocytes), and that the two are not interchangeable in function, cannot be reasonably held to remain absolutely true for pathological states. It must be borne in mind that although no interchangeability of function between the marrow and the lymphatic apparatus may occur in health, yet in disease the conditions might be altered.

Remembering the necessity of caution in differentiating cells histogenetically solely by morphological characteristics and staining peculiarities, the following statements may be made as to the large non-granular mononuclear cells of lymphatic leukæmia.

These cells are mostly about three times the size of a red cell. They are delicate, and may smear or become froth-like in preparing the film. The nucleus is large, occupies about threequarters of the cell, sometimes stains badly, and gives an appearance of vacuoles. The protoplasm stains fairly, and in some shows a faint granulation. The cell is spherical, but its outline is often irregular or ragged.

Another cell is also met with in acute leukæmia, which is smaller than the above, and has a more densely-staining protoplasm and relatively larger nucleus.

These cells are now generally considered as abnormal to the blood. Such cells are, however, present in the normal marrow, but not in large numbers. Veszprémi[26] states that their number varies under various pathological conditions; for instance, they are increased in septic and infectious diseases, and undergo an enormous increase in acute leukæmia. Many writers have suggested that they correspond to an undifferentiated marrow cell, antecedent to the stage of formation of the granular myelo-

cyte. As we suppose that in the normal bone-marrow of the adult granular myelocytes and polymorphonuclears reproduce their own kind by division and self-multiplication, the appearance of these cells may be regarded as a reversion to an earlier fœtal stage in leucocyte formation. These cells would then correspond to the cells variously named by different observers, but whose characters shade into one another, as "indifferent lymphoid cell," Wolff; "lymphocyte," Pappenheim; "myeloblast," Naegeli; "stamm-zellen," Grawitz; and "lymphoid cell," Türk. Wolff[27] defines the cell as a lymphocyte of the bone-marrow, morphologically distinguished from the ordinary large lymphocyte, and capable of differentiation into various forms of leucocyte. This view of a common ancestor of the various leucocytes is, however, regarded by Sternberg[28] as one which, although of great probability, has no direct proof.

But leaving aside the question of a common ancestor for all leucocytes, we may suppose that in lymphatic leukæmia a mononuclear non-granular cell, antecedent in development to the myelocyte, develops in enormous numbers in the marrow, and passes into the blood. The affection of the marrow would, presumably, be more profound than in myeloid leukæmia, because it would be attacked at a phase earlier in the course of development of the generations of cells which result in the red-blood cell, and therefore the very profound anæmia which is found in so many cases of acute lymphatic leukæmia, and is so much more a feature of the disease than in myeloid leukæmia, would be explained.

The mode of dissemination of the cells in lymphatic leukæmia requires a word. So far as the cells are derived from the marrow, even though in an antecedent stage to the formation of myelocytes, they might make their way out in the same way as the latter. Wolff and others regard these cells (lymphocytes) as actively mobile, and as capable of amœboid movement, contrary to the older opinion; others think they can change their shape, but not their place. Probably where they lodge in the tissues they are capable of self-multiplication,[29] and it may be stated again that this conception of the important part played by the marrow in

lymphatic leukæmia does not exclude the lymphatic apparatus generally from being also concerned.

With regard to the ætiology of acute lymphatic leukæmia, there is evidence that some cases may be due to a streptococcic infection. Holst's cases of streptococcic infection of the marrow have been mentioned. Forbes and Langmead obtained a streptococcus from the blood of four cases *post-mortem* and of one during life, although they are careful to point out that the organisms obtained *post-mortem* may have been due to a terminal infection. In many cases of this disease the rapidly fatal course—high fever, hemorrhages, and purpuric eruptions, together with the frequent presence of buccal and pharyngeal lesions—is strongly suggestive of a severe septic infection.

We are now in a position to consider acute myeloid or myelocytic leukæmia. The account just given of the share taken by the marrow in the production of acute lymphatic leukæmia brings it into close relation with acute myeloid leukæmia. In the former it is supposed that the affection of the marrow takes place at some stage antecedent to the development of the non-granular cells into myelocytes, *i.e.* at some preceding generation; in the latter it may be supposed to take place at a little later stage. It is easy to understand that the distinction between the two, especially in irregular or atypical cases, may be difficult or impossible. McWeeney[30] points out the impossibility of distinguishing by their morphology alone the undifferentiated (embryonic) cells of one tissue (myeloid) from those of another (lymphoid). The presence or absence of granules in the cells will be important; and this again depends to some extent on technique, one man will demonstrate them where another fails. Some cases described as acute lymphatic leukæmia in all probability really belong to acute myelocytic leukæmia.

Cases of acute myeloid leukæmia have now been recorded in which the changes in the blood and organs are sufficiently characteristic. Thus the blood contained neutrophil and eosinophil myelocytes, large and small mononuclears, small lymphocytes, polymorphonuclears, and a considerable increase in mast cells and eosinophils; a more mixed blood-picture than is seen in

lymphatic, and giving the characteristics of myeloid, leukæmia. A myeloid transformation was found in the spleen, liver and glands.

Based on the views which I have discussed as to the nature of lymphatic leukæmia, two new forms or names have been suggested, (1) indifferent lymphoid cell leukæmia (Wolff), and (2) "myeloblasten" leukæmia. Wolff[31] postulates in blood-development (1) lymphocytes proper, (2) indifferent lymphoid cells (the cells we have been considering), which in their further course may develop into either large lymphocytes or myelocytes. Hence the "indifferent lymphoid-cell leukæmia" may develop into lymphoid or myeloid leukæmia. It seems to me that the decision in any particular case between "indifferent lymphoid cells" and "large lymphocytes" would be extremely difficult—understanding by the latter term the large mononuclear cell of lymphatic leukæmia—and the distinction of the corresponding leukæmic states very obscure.

Fabian, Naegeli, and Schatiloff[32] propose the term "myeloblasten" leukæmia, using Naegeli's term myeloblast as given above. They give four cases reported by Ziegler and Jochmann,[33] two cases of acute myelocytic leukæmia by Hirschfield,[34] and also a case under their own observation, in which the liver showed an enormous intracapillary growth of cells compressing the acini, the spleen a typical myeloid transformation, and there were also myeloid collections in the not enlarged lymphatic glands. They propose the following criteria for the differential hæmatological diagnosis: (1) The reactions to two special stains; (2) the presence of numbers of cells of all intermediate stages between myeloblasts and myelocytes; (3) a large number, not rapidly diminishing in the course of the case, of other myeloid elements, namely ordinary eosinophil and neutrophil myelocytes; (4) the presence in many cases of large nucleated red-blood cells; and (5) the demonstration of giant cells belonging to the marrow.

On the whole, it seems to me that there is hardly sufficient ground for the separation of either of these as separate varieties of acute leukæmia, nor is it advisable at the present stage of investigations into leukæmia to add to the already confused nomenclature new names for forms which, after all, are ultimately based on

theoretical considerations as to the nature and ontogeny of the cells present. Lastly, the question of the occurrence of mixed forms of leukæmia is still not satisfactorily settled.

I now pass on to briefly consider the relation of leukæmia to two diseases of the bone-marrow—chloroma and myeloma; and to one of the glands—lympho-sarcoma.

In chloroma there are growths, of a peculiar bright green colour, most commonly primarily situated in the periosteum of the frontal and temporal bones, very often in or around the orbit. The growths may, however, begin in the vertebræ. The tumours also affect other parts of the skeleton, *e.g.* sternum, ribs and long-bones. Treadgold[35] considers that the growths begin definitely in the red marrow, which at puberty is restricted to the bones of the skull, vertebræ, ribs, sternum and epiphyses of the long-bones.

In other cases the chief changes are in the lymphatic apparatus, the bones being only slightly or not at all affected,[36] whilst the lymphatic tissue is very extensively involved, especially the lymphatic glands, in which the peculiar grass-green tumours are also found. The spleen is enlarged in all cases.

Other atypical cases are described which present all the typical features of chloroma without the green colour. The blood shows a marked leucocytosis, more or less pronounced in individual cases, in some enormous, to 800,000 cells to c.mm., and the increase consists in large mononuclear cells, from three to five times the size of a red-blood corpuscle, and which, according to Treadgold, contain more protoplasm than the similar cells of acute leukæmia. He describes two types of these cells. There is often profound anæmia. In the marrow, spleen, lymphatic glands and lymphatic apparatus generally the chief histological change is the presence of enormous numbers of similar mononuclear cells. Some of these cells probably contain neutrophil granules, and in several cases eosinophil cells—like eosinophil myelocytes—have been demonstrated in the tissues, but not in the blood. An infiltration of the liver and kidneys by mononuclears is also found.

Sternberg[37] makes a division into (1) lymphoid, (2) myeloid

chloroma ; in (1) there is an atypical growth of lymphoid, and in (2) of myeloid tissue elements. The first form he identifies with a disease called by him leuko-sarcomatosis. In leuko-sarcomatosis there is an increase of large mononuclear cells in the blood, at first relative, later absolute and very great. Similar cells are present in large numbers in the spleen, lymph-glands, thymus, tonsils, lymphoid tissue generally, and in the bone-marrow. The spleen and glands are enlarged, and the growths in the latter may spread beyond the glands to invade the periphery. The changes, in fact, correspond to those of chloroma, except that the green colour and also the extensive sub-periosteal growths of the latter are absent. In fact, the cases correspond to those forms of chloroma in which the stress of the disease falls on the lymphatic apparatus. These cases again present close resemblances to some forms of lymphatic leukæmia. The distinction is made by Sternberg partly on the basis of the blood changes and character of the large mononuclears, and partly on the tendency of the growths in the glands, &c., to invade the neighbouring tissues.

Looking upon lymphatic leukæmia as a hyperplasia of lymphatic tissue, he proposes the name "leuko-sarcomatosis" for the above condition, in which there is an invading atypical growth with heterotopous growths plus the leukæmic blood picture. The objections to this view are that, as has been said above, it is at least doubtful whether the large mononuclears of lymphatic leukæmia are normal to the blood, and that no distinction as to essential difference of kind can be based on mere size of the cells, varying as they do so much in individual cases ; that if the cells of lymphatic leukæmia are not normal cells the infiltrations of the organs are in a sense heterotopous ; and further, in some cases described, at any rate, as lymphatic leukæmia[38] there has been infiltration of the fat around the enlarged glands, tonsils, thymus, &c., both in the large and small-celled forms. I do not wish, however, to emphasise this last point further than to indicate that there is great difficulty in differentiating atypical cases of leukæmia from some allied conditions, and that these cases, called by Sternberg leuko-sarcomatosis, afford a transition between lympho-sarcoma and lymphatic leukæmia.

To return to chloroma, Treadgold[39] has shown the striking similarity between acute lymphatic leukæmia and chloroma in incidence of age and sex, and also in symptomatology. He also makes the interesting suggestion that the greater richness in protoplasm of the mononuclear cell in chloroma may account for the greater activity of the growths in invading the surrounding tissues.

Brief reference may be made in this connection to myeloma, a disease characterised by a systemic affection of the lymphatic-hæmatopoietic apparatus, associated with local tumour-like formations in bone, hyperplastic in nature, that is to say, showing no histological elements which are not normally present in bone-marrow.[40] The pathognomonic symptom of Bence-Jones's albuminuria is well known. Myeloma has nothing to do with other tumours of the bone-marrow, but is closely allied to the leukæmias. There is, however, no blood change beyond secondary anæmia. A slight leucocytosis has been described in some cases, and in others myelocytes have been found in the spleen, liver and glands. Lubarsch recognises four types of cell present in the tumours:—(1) Myeloma. The cell a true myelocyte with or without granules. (2) Lymphocytoma. The cell a lymphocyte, from lymphoid tissue of marrow. (3) Erythroblastoma. The cell belongs to type of megaloblasts. (4) Leukocytoma. The cell large, non-granular mononuclear. He accordingly divides myeloma into myelocytoma, lymphocytoma, and erythroblastoma.

Ribbert[41] assigns a special position to myeloma, in that the tumours contain as characteristic constituent parts the forerunners of red cells or erythroblasts. In any case, there seems to be in myeloma a local tumour of the marrow, the prevailing cell varying in different cases, but being always a normal constituent of the marrow.

The last disease of the lymphatic apparatus of which I wish to speak is lympho-sarcoma, which, as a new growth, shows some peculiar features which have always made it rather a puzzle. Lympho-sarcoma is a local growth which does not affect the lymphatic apparatus in a general manner; it has a local malignancy, invading surrounding non-lymphatic structures. The

spleen and the bone-marrow are not often affected, or if affected, only in a local and circumscribed manner: the growths may undergo necrosis. In all these points, and in the absence of affection of the blood, lympho-sarcoma differs from lymphatic leukæmia, whilst it differs from ordinary sarcoma of the lymph-glands by starting locally in a gland, or in lymphoid tissue, *e.g.* of the fauces, by forming one growth and spreading along the lymphatic tissue paths, whilst sarcoma spreads irregularly and often by multiple growths in different parts. Lympho-sarcoma, again, is distinguished from lymphatic leukæmia as an atypical growth of lymphadenoid tissue, destroying and in no way resembling the normal lymphoid tissue. Observations on the blood are not sufficient at present, in most cases there appears to be no leucocytosis, but some have found a moderate leucocytosis, others a lymphocytosis. The causes of lympho-sarcomatosis are varied: in some cases there is a bacterial infection, in others irritation of the bronchial or mediastinal glands, as in stone-cutters, in anthracosis, &c. Hence Paltauf supposes a constitutional predisposition to the disease.

It is thus seen that, as Cabot[42] points out, there are all transitions from ordinary sarcoma through Sternberg's leuco-sarcomatosis and through myeloma to leukæmia of the ordinary type, and we must now consider the relationship of leukæmias to such growths. Some authors have considered leukæmia as a kind of sarcoma of the blood or blood-forming organs. Banti looks upon lymphatic leukæmia as a sarcomatosis, and on the infiltrations of the liver, &c., as hæmatogenous metastases. Wolff regards his "indifferent lymphoid-cell" leukæmia as a kind of tumour formation. Türk differentiates (1) small-celled leukæmia, (2) acute lymphomatoses, and (3) lympho-sarcoma, but groups them together, as he considers that they may all interchange with one another. Treadgold regards acute lymphatic leukæmia as a malignant tumour arising in the marrow of bone, chloroma as a tumour of myeloblasts of the red marrow, and acute myeloid leukæmia as of similar nature.

Forbes and Langmead pertinently remark, with regard to Treadgold's view of acute leukæmia, that malignant disease

running such a very acute course as some of these cases do is unknown ; in fact, clinically, they much more nearly approximate to acute septic infections.

Some of the reasons which have been advanced for the tumour theory of leukæmia are : (1) That the cells found are atypical. In answer to this, both myelocytes and non-granular mononuclears are found in normal marrow, and myelocytes are also present in the blood in some anæmias, and occasionally in severe infections. (2) That infiltration of the capsule of glands, and of the periosteum of the bones occurs in certain cases of lymphatic leukæmia, not only in large-celled but in some small-celled and chronic cases. Borst and Pappenheim,[43] however, state, and in this are supported by Zeigler, that the microscopic appearance of such invasions is not decisive ; essentially there is only an inflammatory (granulation) tissue. (3) That the leukæmic infiltrations in the organs are to be looked upon as metastases. There is, however, little resemblance to tumour-metastasis in the infiltrations of myeloid or lymphatic leukæmia, the microscopic appearances, *e.g.* in the liver, spleen or kidney, are not suggestive of new growth, and these infiltrations do not excite inflammatory reaction in the tissues they invade. Also against the tumour theory, other observers have pointed out that the irregular mitoses which are found in the cells of malignant growths are not seen in those of leukæmic infiltrations : that there are no blood channels formed by the new cells such as are formed in sarcoma by sarcoma cells : that in lymphatic leukæmia, owing to the presence everywhere in the body of lymphoid tissue, it is difficult to regard the leukæmic growths as strictly heterotopous, no sharp line can be drawn between such cases and others in which the growths are truly heterotopous, and even in the latter case Zeigler considers that they are hardly of sufficient importance to assign leukæmia to the tumours. It must be admitted, however, that a decisive answer to the question of the relation of leukæmia to sarcoma cannot be given with our present knowledge, and that at present it is extremely difficult to draw the line at where lymphatic hyperplasia ends and tumour begins ; but the very fact of the indefinite number of gradations which are found between

the cases at the two ends of the scale affords an additional argument against regarding leukæmia as a sarcoma.

In conclusion, I have purposely not used the term pseudo-leukæmia, as the name has been used in so many senses by different writers, that its employment almost inevitably leads to confusion. There are cases, however, in which leukæmic changes are found in the organs, but in which there is no affection of the blood—the so-called aleukæmic stage of leukæmia; and if, as has been proposed by Sternberg, the name pseudo-leukæmia was confined to these cases, it would have a definite signification.

REFERENCES.

1 **Buckmaster,** *Morphology of Normal and Pathological Blood,* 1906.
2 "Beiträge z. Kenntniss d. Leukämie," *Arch. f. path. Anat.,* 1907, cxc. 474.
3 *Brit. M. J.,* 1905, i. 404.
4 *Loc. cit.*
5 Quoted by Sternberg, "Primärenkrankungen des lymphat. u. hämatopoetischen apparatus," *Ergebn. d. allg. Path. u. path. Anat.* (Lubarsch-Ostertag), 1903, ii. 434.
6 *See* **Cabot,** *A System of Medicine,* Edited by Osler and McCrae. Vol. iv., 1908.
7 **Hutchison,** Goulstonian Lectures. "Some Disorders of the Blood and Blood-forming Organs in Early Life," *Lancet,* 1904, i. 1253 *et seq.*
8 *Deutsches Arch. f. Klin. Med.,* 1907, lxxxviii.
9 *Op. cit.*
10 *A System of Medicine.* Edited by Osler and McCrae. Vol. iv., 1908.
11 **Hutchison,** *loc. cit.*
12 **Emerson,** *Johns Hopkins Hosp. Bull.,* 1907, xviii. 71.
13 "Fatal Lymphocythæmia in Early Life," *Proc. Roy. Soc. Med.* (*Clin. Sect.*), 1908, i. 129.
14 **Hutchison,** *loc. cit.*
15 "Clinical Pathology of the Blood," 1901.
16 **Nothnagel,** *Encyclopedia of Practical Medicine.* "Diseases of the Blood," 1905.
17 *Arch. f. klin. Med.,* xliii. 1 and 2, quoted by Pinkus.
18 *Johns Hopkins Hosp. Bull.,* 1907, xviii. 71.
19 Quoted by Emerson, *loc. cit.*
20 *Loc. cit.*
21 *Quart. J. Med.,* 1907, i. 89.
22 *Tr. Ass. Am. Physicians,* 1903, xviii. 481.
23 Beiträge z. Histologie der sog. "akuten Leukämie," *Arch. f. path. Anat.,* 1906, clxxxiv. 220.
24 Quoted by Hutchison, *loc. cit.,* p. 1255.
25 Quoted by Treadgold, "Chloroma and Acute Lymphatic Leukæmia," *Quart. J. Med.,* 1907, i. 263.
26 *Loc. cit.*
27 Quoted by Ehrlich and Lazarus, Nothnagel's *Encyclopedia.*
28 *Loc. cit.*
29 **Veszprémi,** *loc. cit.*
30 *Brit. M. J.,* 1905, i. 404.
31 Quoted by Sternberg, *loc. cit.*

32 *Loc. cit.*
33 *Deutsche med. Wchnschr.*, 1905, nr. 30.
34 *Berl. klin. Wchnschr.*, 1905, nr. 3, and 1907, xliv. 772.
35 " Chloroma and Acute Lymphatic Leukæmia," *Quart. J. Med.*, 1907, i. 263.
36 **Sternberg,** *loc. cit.*
37 *Loc. cit.*
38 **Fabian, Naegeli, and Schatiloff,** *loc. cit.*
39 *Loc. cit.*, p. 261.
40 **V. Lubarsch,** " Zur Myelomfrage," *Arch. f. path. Anat.*, 1906, clxxxiv. 214.
41 Quoted by Sternberg, *loc. cit.*
42 *Loc. cit.*
43 Quoted by Fabian, Naegeli, and Schatiloff, *loc. cit.*

THE CAUSATION OF CERTAIN MID-DIASTOLIC MURMURS.

BY

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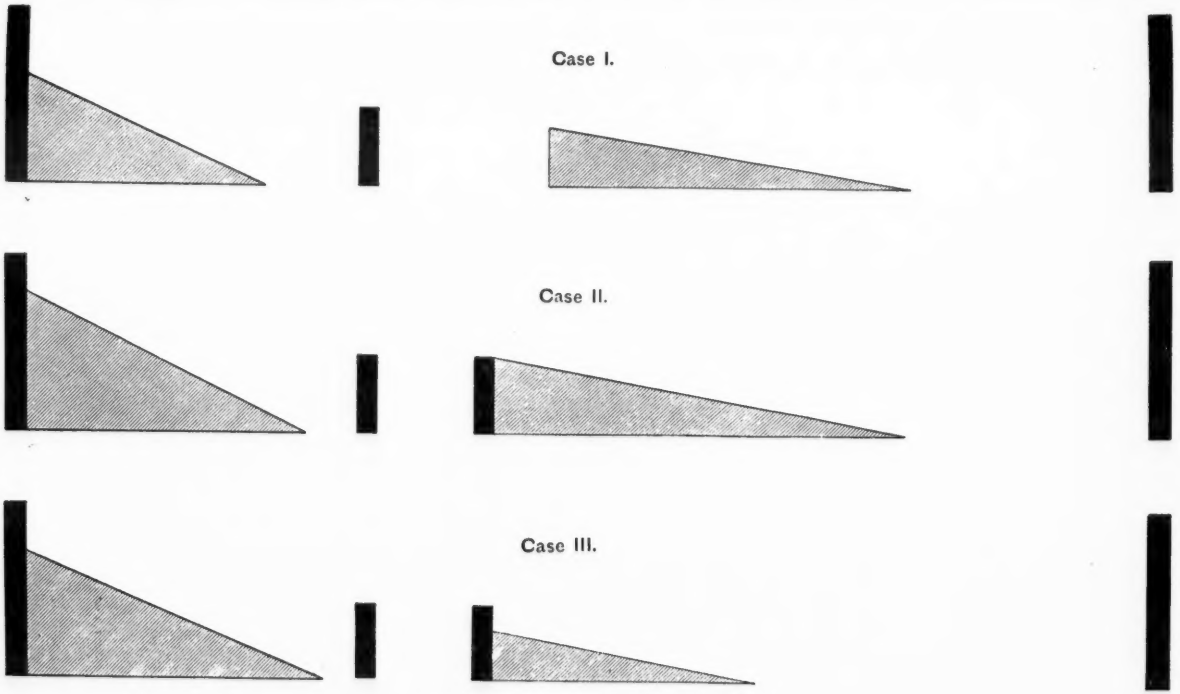
THESE remarks will be best introduced by notes of three illustrative cases from my out-patient department.

Case 1.—A man, aged 26, with aortic regurgitation. Apex beat in sixth space outside the left mammary line. Cardiac dulness from one inch within the right mammary line to the left axilla. At the apex on some days one hears, in addition to a constant systolic bruit, a blowing murmur beginning in mid-diastole, not usually continuous with the next first sound. (See diagram.)

Case 2.—A woman, aged 26, with mitral regurgitation, and with signs such as raise a strong suspicion of pericardial adhesion. The area of impulse extends from the right sternal margin to the left axilla, and there is systolic recession of the left lower ribs behind. At the apex the sounds are as represented in the diagram; after a double second sound comes a rumbling mid-diastolic murmur.

Case 3.—A boy, aged 8, with chorea and the commonest type of rheumatic heart disease seen in childhood—enlargement of the left ventricle with mitral regurgitation. The diagram shows the sounds heard at the apex: the diastolic murmur shown was short, blowing, and strictly mid-diastolic.


Case I.
Case II.
Case III.
First sound.
Murmur (systolic).
Second sound.
(Double in II. and III.)
Murmur (diastolic).
First sound.

That diastolic murmurs are heard at the mitral area in cases of aortic regurgitation, adherent pericardium, and early rheumatic carditis is well known. Their origin, however, is a matter of dispute. This is partly because the similarity of the essential characteristics of these bruits has not been recognised. The following features of the murmur are common to all three cases :—

(1) The murmur is diastolic rather than presystolic, though sometimes it runs on to the next first sound.

(2) It is usually mid-diastolic, beginning either immediately after a double second sound or at a short interval after an undoubled second sound.

(3) It varies in length from day to day and even from beat to beat in the same patient.

(4) It is a smooth, blowing murmur, not rough and harsh like the presystolic murmur of mitral stenosis.

(5) Another point of difference from the murmur of stenosis is the absence of the crescendo character.

(6) It is best heard over a limited area above and internal to the point of maximum impulse.

(7) Sometimes it is accompanied by a fine diastolic thrill.

With so many points in common, it seems likely that, whether the case be one of aortic regurgitation, adherent pericardium, or earlier rheumatic heart disease, the origin of the apical diastolic murmur is always the same. The next step is to arrive at some plausible conception of this common origin.

Two factors are concerned in the production of an intracardiac bruit : a current of blood, and an orifice or channel modifying that current. The current of blood in these cases is a diastolic one. The apical position of the bruit enables us to set aside the possibility of its being due to incompetence of the semilunar valves, and we are therefore led to suppose that the vibrating stream must be that which flows from auricle to ventricle in the second half of diastole. The murmur is not crescendo, and it begins too soon in diastole to be connected with contraction of the auricle. It must, therefore, be connected with the suction action of ventricular diastole. Blood flows into the ventricle

in diastole before the auricle has begun to contract, because the pressure within the ventricle has rapidly fallen as the ventricle expands. Where the ventricle is enlarged this fall in pressure will probably be greater, and the force of suction will therefore be more considerable. It is likely, then, that in the cases under discussion the suction exercised by an expanding ventricle is the force moving the current of blood whose vibrations are heard as a murmur.

We have yet to determine what is the influence by which vibrations are set up. We have already concluded that it is an auriculo-ventricular stream that is concerned: that it is the mitral stream is almost certain, because the murmur is heard in much the same position as that of mitral stenosis. Indeed, it might be thought that the murmur under consideration is produced by the same valvular changes as are found in mitral stenosis, perhaps in a less advanced stage. Such a theory is widely held, and it has two strong arguments in its favour. These are, first, that mitral valvular inflammation is generally present in cases of aortic valvular disease, adhesive pericarditis, and even in the earlier stages of rheumatic heart disease; and, second, that in cases of mitral stenosis a diastolic murmur is often heard at the apex even when the failure of auricular systole has blotted out the presystolic murmur. Both these facts seem to suggest that diastolic murmurs, in the conditions which we are considering, are always to be taken as direct proof that the mitral valve is becoming thick, fibrous and obstructive. *Post-mortem* evidence, however, disturbs this theory. The diastolic bruit heard at the apex in aortic regurgitation was first described by Austin Flint, because he was so surprised to find that it did not depend on narrowing of the mitral orifice; and it was in the same way that the corresponding murmur in adherent pericardium first attracted the attention of Graham Steell. As to the early rheumatic heart disease of childhood, it has twice been my fortune to make *post-mortem* examinations on cases where mitral stenosis had been diagnosed because of apical diastolic murmurs heard during life. Yet in both cases there was but the merest trace of mitral endocarditis, and in both the mitral opening was larger than normal.

Clearly, then, the murmur under discussion is not, at any rate, always proof of mitral valvular inflammation. Yet it must be at the mitral opening that the murmur is produced, and it remains for us to see whether there is any abnormal state of the mitral valve other than inflammation of the cusps, common to cases of aortic regurgitation, early rheumatic carditis, and adherent pericardium, by which an apical diastolic murmur could be caused.

One morbid change there is that is seen in the heart in all three diseases, and that is ventricular enlargement. The *cor bovinum* of aortic regurgitation, the enormous enlargement of the heart, which is the safest clinical guide to a diagnosis of adherent pericardium, the swollen heart of the rheumatism of childhood—in all these the greatest increase is in the ventricular capacity, especially in that of the left. Now if a portion of the ventricle be stretched C times in the course of a dilatation, the capacity of the ventricle will be increased C_3 times, but the calibre of the mitral channel will be increased C_2 times only.

More important still, the mitral ring will not even stretch C_2 times, because it is mainly built up of firm, strong, fibrous tissue, which is less readily influenced by mechanical or toxic influences than is muscle. When the left ventricle is enlarged, therefore, its cubic capacity is increased more than the size of the mitral ring. so that a relative narrowing of the mitral opening is in this way established. The diastolic murmurs heard at the apex in the conditions alluded to are, therefore, caused by vibrations in the blood as it is sucked into the expanding ventricle through a relatively small mitral opening.

This conception is of importance in practice because it explains the disappearance of such murmurs, at any rate in children, under the influence of rest, and also the long interval that may elapse between the first appearance of such a murmur in a rheumatic child and the development of true mitral stenosis—if, indeed, the latter develops at all.

To summarise :—

In aortic regurgitation, early rheumatic carditis, and adherent pericardium, diastolic murmurs are heard at the mitral area.

In their principal features these murmurs are so much alike as to suggest a common mode of production.

Autopsy shows that in all three diseases such murmurs may occur without valvular mitral stenosis being present.

Probably in such cases the bruit is due to vibrations in blood sucked by ventricular diastole into an enlarged ventricle, through a mitral orifice not so much enlarged.

In the discussion following this paper. Drs. Neild and Edgeworth suggested the use of this theory to explain murmurs apparently presystolic occurring under similar conditions in the absence of mitral valvular stenosis. With these suggestions I heartily agree. Possibly in such murmurs auricular systole plays its part, though not, I think, to the same extent as in the production of the presystolic murmur of true mitral stenosis.

NOTES ON CASES.[1]

BY

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GALL-STONES IN GALL-BLADDER, CYSTIC DUCT, COMMON DUCT, AND HEPATIC DUCTS, IN A GIRL OF SEVENTEEN.

THIS case is noteworthy from the youthful age of the patient, and the extent of involvement of the biliary apparatus.

She had indigestion two years previously, independent of food. Three months ago she had pain across the stomach and back, chiefly on the left side, and jaundice appeared when the pain ceased. A short time ago she had return of severe pain beginning and ceasing suddenly, lasting several days, and followed by jaundice. Thus she had two attacks of pain recently, in the first of which the urine was dark and the motion light.

[1] Shown at the meeting of the Bath and Bristol Branch of the British Medical Association, Oct. 28th.

When admitted she had a little jaundice and no other symptoms.

At the operation there were adhesions about the gall-bladder, which was surrounded by jelly-like lymph. (Fig. 1.) The liver was large and congested; and the gall-bladder, of yellowish colour, contained a milky fluid, stones and sand. On exposure of the ducts they were all found to be hard from contained stones. An incision was made into the common duct, where there was a large stone, and it was extended up into the cystic and common hepatic ducts, which were full of stones and grit. After these were cleared out more debris was found in the right and left hepatic ducts, which were also cleared. The pancreas was hard. Adequate drainage was provided, and the patient made a perfect recovery, leaving three weeks after operation.

STONE IN COMMON BILE DUCT WEIGHING 1½ OZ., AND MEASURING 3½ INCHES LONG AND 4 INCHES IN CIRCUMFERENCE.

This is an example of an enormous gall-stone removed from the common duct during life; although there is recorded an example of a larger stone, which weighed nearly 3½ oz., removed from a patient after death. In the latter case there is evidence that bile passed into the duodenum, for it is recorded that fluid bile surrounded the stone; and in my case, although the stone was so large, and its lower end fitted like a ball-valve into the dilated ampulla of Vater, the patient was not deeply jaundiced.

She was a woman of 64, who had been subject to bilious colic for 37 years, and on two occasions gall-stones had been found in the stools. She was admitted a week after a bad attack of colic with rigors and sickness; the jaundice cleared up but again increased, and a hard resistant mass could be felt below the right hypochondrium, below which the lower border of the liver could be felt some few inches.

When the abdomen was opened a very hard mass presented itself in the common duct, which gave a ringing sound when percussed with a pair of forceps. The gall-bladder was very small, and contained a solitary calculus surrounded by a little turbid

fluid, and the cystic duct was occluded. (Fig. 2.) The large stone in the common duct was removed by extending the incision until it could be delivered. The finger was then passed into the much-dilated hepatic ducts above and the duodenum below. The wound in the common duct was sutured in part, and drainage provided. At first she was troubled with some sickness, and was reported to have had a kind of fit on four occasions during the first eighteen hours, each fit lasting from two to seven minutes:—the jaw was fixed, the hands twitching, the eyes staring, there was no response to questions, and no change of colour. The patient made a satisfactory recovery, without pyrexia, and she is now well.

PANCREATIC CYST IN A BOY AGED SEVEN.

The patient was a thin boy, who fell off his bicycle and struck the abdomen against the handle bar. He was seen two hours afterwards, when a slight contusion over the left hypochondrium was observed, and he complained of abdominal pain and tenderness in the epigastrium. There was little shock and no rigidity of the abdomen. The pain continued next day, and every ten or fifteen minutes there were severe colicky exacerbations. For the three days following the accident his temperature was 100° to 101°, and he was frequently sick.

Five days after the accident a rapidly increasing swelling could be felt in the epigastrium, and the lower edge was clearly defined at first. Later the pain and swelling increased till the latter reached to three inches below the umbilicus, and occupied the whole of the right side of the abdomen, and the patient lost flesh considerably. Three weeks after the accident he had vomiting with a considerable increase in the size of the swelling. A month after the accident, I operated in the right semilunar line, when about three pints of clear yellowish fluid were withdrawn from a cyst, the wall of which was about one-eighth inch thick and friable. (Fig. 3.)

The fluid was tested by Dr. Walker Hall, who gave the following report:—

S.G.—1008; alkaline.

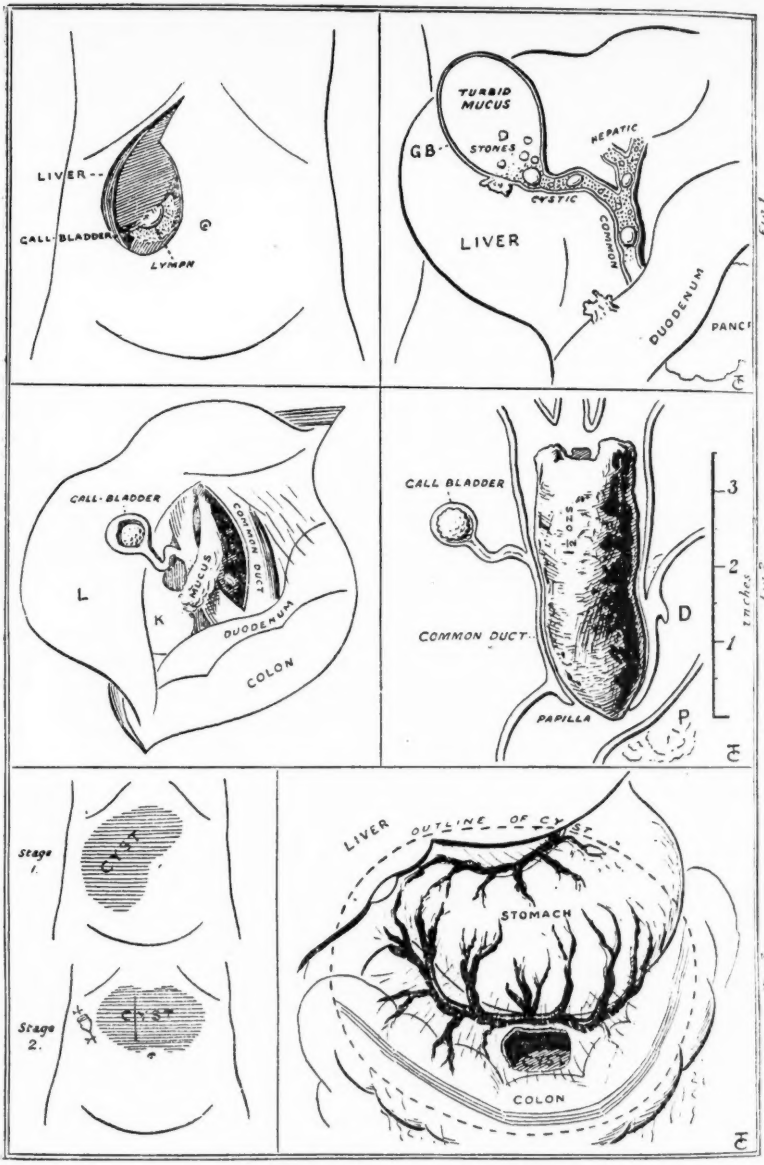

Fig. 1.—*Gall-stones in gall-bladder, common duct, &c.*
Fig. 2.—*Stone in common duct, weighing 1½ ounces.*
Fig. 3.—*Pancreatic cyst in a boy 7 years of age.*

Albumin—5 parts per 1000 Esbach.

Fat—Large traces in ether extract.

Deposit—Numerous cells containing fat droplets. Small amount of pigment, cholesterin and calcium crystals.

Digestive Action.—After forty-eight hours there is distinct evidence of the digestion of protein. (Trypsin therefore present.)

Reducing Substance.—There is present a reducing substance which is not sugar.

After the operation very little more fluid escaped, and four days afterwards a swelling appeared in the epigastrium, rapidly increasing in size, and pushing the original drainage-tube downwards and outwards in the right loin. The colicky pains returned and the patient looked more ill. A second operation was, therefore, performed six days after the first through the right rectus muscle. The stomach was immediately below the incision, and adhesions to the parietes were separated. An opening through the gastro-colic omentum revealed a tense cyst, from which about one and a half pints of fluid, with some coagulated serum, escaped. The discharge was continuous and profuse; caused considerable irritation of the skin, as if from digestion; and the patient continued to waste. The cavity was, therefore, washed out with weak adrenalin solution, and the patient was fed with raw and cooked sweetbread. After ten days the discharge rapidly diminished, the wound soon healed, and the patient is now perfectly well, a year after the operation.

This case is a well-marked example of false pancreatic cyst described by Mr. Jordan Lloyd in 1892, resulting from injuries to the pancreas, and it bears out the contention that the lesser peritoneal cavity tends to be involved. Such cysts have occurred between the ages of thirteen months and seventy-six years, and as they arise from the pancreas in the retro-peritoneal region, they are covered by three layers of peritoneum. In the case here recorded there is distinct evidence that the cyst first occupied the lesser peritoneal sac, and then involved the right loin through the foramen of Winslow. After the first operation the foramen

of Winslow must have become closed, leaving a retention cyst in the lesser sac of peritoneum, which required subsequent drainage. This view is confirmed by the fact that Albert saw a bulging of such a cyst through the foramen of Winslow. The mortality of the recorded cases has been about 10 per cent.; and it will be interesting to observe whether my patient develops diabetes in the future.

DILATATION OF POSTERIOR CEREBRAL VESSELS WITH BASAL HEMORRHAGE IN A GIRL AGED SIXTEEN.[1]

BY

T. M. CARTER, M.D.

(*With remarks by I. Walker Hall, M.D.*)

BASAL hemorrhage occurring in persons under 30 years of age is not a rare though by no means a common condition. Its liability to be overlooked or mistaken for functional disturbance has recently been commented upon by Professor Rose Bradford.[2]

These cases occur at any age from early childhood to extreme old age, but chiefly between 20 and 30 years, where an aneurysm, usually sacculated and varying in size from that of a pin's head to a large walnut, is formed in one of the vessels at the base of the brain, usually the middle cerebral or the basilar: slight leaking occurs, and gives rise to a train of indefinite symptoms, in which there is at first usually a kind of fit, or faint, or seizure, with, it may be, loss of consciousness for but a short time, followed by a varying period of indefinite illness, often very slight, and characterised by vomiting, giddiness, disturbances of vision, tinnitus, lassitude, generally loss of knee-jerks, and

[1] Read at a meeting of the Bristol Medico-Chirurgical Society, November 11th, 1908.

[2] Vide *Lancet*, 1908, ii. 703.

often accompanied by more or less stiffness and rigidity of the muscles of the neck: then suddenly a fatal seizure from rupture of the aneurysm supervenes.

The course followed by the extravasated blood is determined by the pia-mater; rarely does this rupture and a subdural hemorrhage result: a large quantity of blood may be found in the lateral ventricles, which has all come from the vessel ruptured at the base and passed up the side of the pons and medulla into the fourth ventricle, and so to the third and the lateral ventricles.

The pathological findings in a case of this type, which came under my notice in September, contained features sufficiently unusual to merit a permanent record.

The patient was a servant-girl, Charlotte A——, aged 16, but with the appearance and development of a young woman of 20, somewhat fat and very anæmic. She had been engaged by her mistress seven weeks previously without much inquiry as to her health and antecedents, and had complained of headaches, noises in the head, some deafness, indefinite pains in the back and legs, and indigestion during this time, her mistress making the significant observation that she did not think she was really deaf, but slow and dull, for she had noticed after a while that it was never necessary for her to repeat an order, the girl would "wake up to it" in time. Sometimes she was giddy, and on two occasions she had fallen on the stairs, but it was at a dark corner where others also occasionally fell.

I learned from her mother after the girl's death that she had seen her daughter six weeks previously, and thought her "very smart and jolly;" and she noticed how fat she was getting, and how well she looked.

Her father, æt. 48, was said to be a strong, healthy man, who had had no serious illness but "a growth in the ear which got mixed up with the nerves and caused paralysis," and which was operated on four years ago.

Her mother, æt. 47, said she was always strong, and had had no serious illness. She had had nine children, all born alive and at full term; four or five very early miscarriages (six to eight weeks), but not in a continuous series. The children were all

big and healthy except Charlotte, who was rather small at birth (but not shrunken and wizen-faced); the next child, two years older, was healthy, and there had been no intervening miscarriage. Of the nine children four had died in childhood, the others being healthy, except the eldest girl, aged 25, who is extremely anæmic.

Charlotte had appeared healthy and strong through childhood; she had scarlet fever at 8 years, but no other illness. Twelve months ago she had teeth extracted, and there was much bleeding, which the doctor said it was best not to stop. She menstruated at 14½, and at first this was "rather much," but her mother could not say whether this continued so.

Though she had been complaining as stated all the time she had been in the house, she did her work steadily and good-naturedly till at midday on Saturday, September 26th, she vomited, and said she had a "bilious attack."

She stayed in bed on the 27th and vomited once during the forenoon, but took her dinner. An hour or two after her manner became strange and apparently hysterical, she threw herself about, made grimaces at her mistress, and put out her tongue at her with her false teeth poised on the tip. Fearing for her sanity, the mistress sent hurriedly for advice; but the condition was so like hysteria that no serious view of the condition was formed at that time, and the friends were reassured concerning her.

On seeing her at about ten o'clock, however, I found her semi-comatose; the pupils contracted, and but slowly reacting to light; conjunctival reflex present, but much diminished; pulse 80, regular, but of a "slapping" quality, with a strong impulse quickly subsiding; respirations 23, and rather shallow.

She made no response on being spoken to, but turned slightly from a strong light; and on my attempting to remove her teeth there was too strong resistance by the muscles of the jaw for me to succeed in doing so; no effort at interference was made, however, by the hands.

There was possibly a little greater flaccidity of the muscles of the limbs of the right side than of the left, on both sides the

knee-jerks were much exaggerated, and there was also very marked Babinski's sign in both feet. She had passed urine in the bed. There were no signs of middle-ear disease. Within half an hour the respirations became of an irregular Cheyne-Stokes character, and the pulse began to be slightly irregular. There was a slight blowing systolic murmur at the apex ; nothing abnormal detected in the abdomen.

At midnight Dr. Charles saw her with me, and by then the coma had considerably deepened, the pupils were dilated, conjunctival reflex was absent, slight divergent squint had appeared, and the pulse was more irregular and failing. The right optic disc was blurred and indistinct, knee-jerks both active, and Babinski's sign very marked.

There was no resistance offered to the removal of the teeth, the tongue and mouth appeared to be normal, and there was no abnormal odour to the breath.

Possibly the right side was a little more flaccid than the left, but no definite localising signs could be obtained, and though in the absence of an examination of the urine data were insufficient for a definite diagnosis, basal hemorrhage was considered as a probable cause of the condition.

Obviously no treatment would be of any avail, and none was attempted. The coma deepened ; convulsions, said by the nurse to have been frequent and general, supervened, and the girl died at 7.45 a.m. on the 28th.

REMARKS BY PROFESSOR I. WALKER HALL.

At the autopsy, made twenty-eight hours after death, the chief features were a diminished coagulability of the blood, a general hypoplasia of the circulatory organs, a large, round, gastric ulcer, and the basal hemorrhage. The subcutaneous tissues were very adipose. The liver, kidneys, intestines, lungs and sexual organs did not present any distinctive lesions.

The ulcer was situated on the anterior wall of the stomach, and had extended to the serous coat ; the edge of its left half was undergoing fibrosis, while that of its right half was clean cut.

The aorta was of small size both in its ascending and descending

parts: the abdominal and cephalic arteries were thin walled, and contained fluid blood. The heart was small for the size of the body. The valves and orifices were quite normal, and there were no signs of recent or old peri-, endo-, or myo-carditis. No thrombi were present in any of the cavities.

On opening the skull, the basal hemorrhage was found. After removal of the brain, a large amount of fluid blood escaped from the severed arteries.

The hemorrhage appeared to originate from a small clot on the basal part of the right posterior cerebral vessels, and to extend via the pia-arachnoid and "iter" into the ventricles. The lateral ventricles both contained a small quantity of fluid blood, and the choroid plexus was very turgescent; from its surface fluid blood dripped continuously into the posterior horns of the lateral ventricles. No hemorrhages were found in the "pons" or "medulla." There were several cortical areas whose appearances were suggestive of "capillary hemorrhage."

Serial sections were made of the primary clot. A vessel with fibrous walls—apparently a venule or a fibrosed arteriole, it being impossible to determine which, although several differential stains were employed—opened into an aneurysmal dilatation. The opening was located definitely, and the continuity of the aneurysmal wall with the arterial coats was established. The contents of the saccular dilatation consisted of peripheral laminated clot, and a central area of red-blood cells. The part where rupture had occurred was quite evident.

The cerebral arteries were very thin, and the walls of some of the vessels varied in thickness and adventitial fibrosis. Neither atheroma nor endarteritis obliterans were present.

A careful search for syphilitic changes did not reveal any features of interest either in bones, lung, liver, spleen or eyes.

In the absence of other evidence, the lesions may be ascribed to some congenital defect in the blood apparatus. Cerebral hemorrhage may arise from arteries, capillaries, veins or aneurysm. In this case the absence of atheroma suggested that localised lesions, such as emboli, &c., might have led to the aneurysm.

None of these could be found. The condition of the blood, the appearance of the veins, the turgescence of the choroid plexus, all pointed to a venous, rather than to an arterial, cause. It seems probable, therefore, that the blood condition was the primary cause, and that the case should be classed under this head.

Had the case come under consideration twenty-four hours earlier, it would have been possible to carry out routine blood and other examinations. As it is, the record of the case is admittedly incomplete, and its mention only justified in view of some of its clinical features, and of the microscopical appearances demonstrated by the colour-photo-micrographs which were shown to the meeting.

* * * *

The very fluid condition of the blood, the evidence of the length of time during which hemorrhage had been occurring, the extensive thinning and softening of the cerebral cortex, are all points of interest in the case, which make one regret that the patient had not come sooner under observation, and wish that more data had been obtainable for solution of some of the problems involved.

A MEDICAL NAVAL VOLUNTEER ON DUTY AT QUEBEC, JULY, 1908.

BY

W. KENNETH WILLS, M.B., B.C. Cantab.

THE ways of the Admiralty are inscrutable, but though it may be the general service opinion that the main function of that august body consists in being adversely criticised, I found no inclination to follow suit when I discovered that I was gazetted to the *Russell*, and that my destination was Quebec.

It was pardonable that I was both in high spirits and a quandary at one and the same moment. For I had been refused the trip to Quebec already by the Admiralty Volunteer Committee

on the plea of no room, and I had taken their decision that I should proceed forthwith to Portsmouth to join the *Vengeance* for manœuvres as "one of the laws of the Medes and Persians that altereth not." In the *Vengeance*, however, a signal found me which sent me off express to Devonport to join the *Russell*; but it only dawned slowly upon my awakening intelligence department that the *Russell* and I were bound for Quebec. This meant six weeks from home, when I had only arranged for four: hence the quandary!

On arriving at Devonport, I discovered that the *Russell* had already started for Berehaven. A night or two in barracks was the result of this, which gave one an opportunity of looking in at the hospital quarters there, and I only just managed to avoid being inspected by my Lords of the Admiralty, who were making a personally-conducted tour of the premises.

I obtained a passage in the *Duncan* to Berehaven, and in the ship met five other medicals, some belonging to the *Duncan*, others bound, like myself, for the other ships of the Atlantic Fleet. One of these was Surgeon Cock, R.N., of the *Russell*, who, in the way they have in the Navy, immediately took me in tow, and commenced the hospitality which Staff-Surgeon Philip and he maintained throughout the cruise in the most cordial fashion. The N.O. (naval officer) has reduced the science of hospitality to a fine art, and if one is not at home in a ship within a short time of joining, there is something wrong with the "cut of one's own jib." What greater test could there have been of hospitality than was exemplified by one of the officers lending me his golf clubs before even I had been introduced to him? so that I was able to contest an even match with Cock over Bere Island golf links (save the mark!).

We put to sea on July 5th, on an even keel and in brilliant weather, and at "economic" speed soon left the "Bull" and "Calf" behind us, and entrusted ourselves to the "Baths of Ocean," *en route* for the Hesperides.

We comprised in "line ahead" the first-class battleships *Exmouth* (flagship), *Albemarle*, *Duncan*, *Russell*, and the cruisers *Arrogant* and *Venus*.

The passage out was uneventful. There was little to do in the sick bay, and the problem was how to keep clear of the ship's routine, and yet do anything worth doing. It soon began to grow foggy and cold, and we were all on the look-out for icebergs. There was nothing to do on deck, and nothing to do below. It was bitterly cold on deck, where everything dripped and the quarter-deck awning leaked; and it was stifling in one's cabin, which being on the waterline could not "carry the scuttle." The wardroom and the smoking casemate were the sole refuges of the destitute N.O., and even these were not always reliable. At gun-drill the casemate was dismantled, and at turret (12-in.) drill all the dead-lights of the wardroom skylights were down, leaving midnight below. Noise, eruptions, interruptions, sirens with Cheyne-Stokes rhythm or suffering from sporadic attacks of Morse-code cough, "general quarters," "fire stations," "collision stations," "desert ship," or "night quarters"—these were strenuous times for those concerned, but how any reading can be done whilst afloat is not easy to imagine. Yet it *is* done, and the surgeon manages to circumvent these difficulties, and strenuously attempts to keep up to date. All honour to him who succeeds!

As we neared the Straits of Belle Isle we met icebergs, and our first sight of one of these was in brilliant sunshine on an ultra-marine sea. It was only a small one, but it was peculiar in that it was a silhouette of Mr. Chaplin, so exactly reproduced that it might have been a marble effigy of that parliamentarian.

We had our first medical case of any importance at this time, one of the stokers arriving in the sick bay with an indefinite form of pneumonia. There were few physical signs, and the general symptoms out of all proportion to the extent of the pulmonary trouble. He started with an attack of unconsciousness, with low muttering delirium, but gradually improved, very slight evidences of rusty sputum occurring some days later. As another case very similar in nature occurred while we were at Quebec among the wardroom servants, it seems worthy of notice. Both did well.

The weather improved as we drew nearer our destination, and we bade farewell to the snow lying on the heights of Labrador, and thanked Heaven that it was 90° in the shade at Quebec.

On the 14th we reached the Traverses, south of the Island of Orleans, so famous in the story of the progress of Saunder's fleet up the unknown St. Lawrence, and passing round the Levis shore, we opened out the panorama of Quebec, just as the sun was setting behind the heights of Abraham.

There can be few more striking pictures than met our eyes at that moment. Quebec was framed by the setting sun, and the evening haze made the distance more effective and mystical, till citadel and fortress, church and seminary, hotel and dwelling-house, warehouse and even elevator became the battlements of some enchanted, castellated and impregnable city. Behind towered the heights of Abraham ; to the north the blue uplands of the Laurentian Shield ; far away to the right the white lace falls of the Montmorency slipping into their silent depths ; to the left the Levis shore, to which nearness gave contrasting detail, while the broad sweep of the St. Lawrence, widened out as it is into an inland sea by the junction with it of the Charles River, reflected the whole as in a mirror of gold. The effect is not likely to be effaced from one's memory, nor could one help wondering if such was the sensation that Wolfe experienced as his transports passed into the view of that impregnable fortress, and whether even his intrepid heart sank at the stupendous task before him.

Our flotilla formed into " double line ahead," and quietly dropped anchor in midstream beneath the citadel. Next morning the powder began to burn in salutes to the port, salutes from the port, and salutes to officials exchanging visits. But this was only the preliminary canter, for the French ships had not arrived, nor yet the American, nor the *Indomitable* and *Minotaur*.

By the courtesy of the staff-surgeon, I obtained shore-leave, and investigated Quebec and the Montmorency Falls. Quebec itself was transformed into an old-time city with the costumes of centuries ago, for by special request the mummers of the pageant wore their distinctive dresses about the streets. The illuminations belonged, however, to the twentieth century, for the main buildings were tricked out with electric lights in profusion, giving a delightful effect when viewed from the river.

Five days yet remained before H.R.H. the Prince of Wales

was timed to arrive, so the surgeon of the *Russell* and I, obtaining shore-leave for four days, " did " Niagara, Toronto and Montreal.

On our return from a most enjoyable though far too " hustled " a trip, we found that the American and French warships had arrived, and also a Canadian river gunboat. The *Russell* was to entertain the officers of the *Amiral Aube* on the following day, so there was a kind of census taken of those officers who could talk French. The result was disheartening: one interpreter and a midshipman or two comprised our Franco-linguistic strength, though not a few seemed strong in language in general! But when our guests arrived and were found to understand not a word of English, desperate attempts were made which were not wholly unsuccessful. (By the by, the French idea of a teetotaller is one who drinks tea with every meal!)

One of our guests was the ship's surgeon, who was insatiably interested in the sick quarters and the service-afloat stores. His eyes gloated over the bacteriological and water-testing case, but he preferred the French arrangement of a double sick bay—on the port side for out-patients, and on the starboard for cots, operations, &c. With us, of course, there is one large sick bay, which can be divided off by screens as required. One surgeon is deemed sufficient apparently for a French man-of-war. To carry three medicals was thought to be a great excess, and when it was explained that one was a " volontaire," our medical guest thought (as I did) that it was a paternal Government that allowed such a thing.

On July 22nd the *Indomitable* and *Minotaur* arrived with the Prince, and every gun in the ships and citadel spoke the welcome with no uncertain voice.

Quebec was crowded by this time, and necessaries had reached famine prices, equalling or surpassing the days of Bigot the Intendent and La Friponne!

The militia battalions of Canada were encamped in thousands in the neighbourhood, there was a huge tented city for visitors, and there was not a bed to be had in the neighbourhood. So it cost a dollar to be shaved, and one N.O. who lost his last boat off to his ship was accommodated with a shakedown on a hotel table

for the small cost of fifteen dollars for the night, just to show that there was no ill-feeling between the French-Canadians and their English brethren. Another instance of their elastic ways appeared in our dealings with the laundry. The tariff supplied to the officers of the fleet attracted the linen from the ships in quantity. When it was in hand the prices suddenly rose to a ruinous figure. No redress was obtainable from sympathising magistrates. However, the marine is as subtle as the Chinee at times, and one servant, on applying for his master's washing, was handed the parcel, and a sum was demanded in payment. The marine objected to the amount as not according to agreement. " You pay that or nothing," came the response. " Now we know where we are," said the marine, and left hurriedly. Thus did Lamb's anecdote of the Quakers and the breakfast-lunch bear fruit in after years.

The Prince's reception, however, left no doubt in the mind that the French-Canadians were British subjects, with a capacity for enthusiasm truly British in quality. The East joined hands with the West in a remarkable demonstration of greeting, and from this time on there was no cessation of functions. The pageant was, perhaps, the chief attraction of the Tercentenary, but the Grand Review was the most noteworthy. In this some 20,000 or more naval and military troops took part on the Plains of Abraham, including the British, American and French bluejackets, the marines, and the Canadian militia. By special request of the Prince the Naval Volunteers were included in the review, and made a very good account of themselves.

The personnel surrounding the Prince on this occasion was of great interest. The Duke of Norfolk, Lord Roberts (who obtained an ovation nearly equal to that of the Prince himself), the Governor-General of Canada, Vice-President Fairbanks (U.S.A.), Admiral Jaureguiberry and other French representatives, the Earl of Dudley (on his way to Australia to assume the office of Governor-General), Sir Wilfred Laurier, and the topographically interesting lineal representatives of those who made Quebec famous : Mr. George Wolfe, the Marquis de Levis, the Marquis Levis-Mirepoix, the Comte de Montcalm, Capt. the Hon. Arthur

Murray, the Hon. Dudley Carleton, and the Mayor of Brouages, the birthplace of Champlain.

The occasion of the review was made the opportunity for the Prince to hand over to the nation the Quebec battlefields as a national park, with the money collected for the purchase and improvement.

On " Champlain Day " there appeared in the river, under full sail, the little *Don de Dieu*, not much larger than a masted picket-boat, with a high poop, and looking microscopic by the side of the *Indomitable*. This was a facsimile of that ship which, 300 years ago, brought Champlain to Quebec. Now, as then, Red Indians in feathers and war-paint paddle out their canoes to investigate this strange and sinister apparition. Being satisfied, however, on this occasion that he is coming peaceably, they escort Champlain to the shore, where he proceeds to his " habitation " erected in the town. As near a representation as possible was made of this, though the stockade surrounding it was, for the purpose of observation, a great deal lower than the original must have been.

The day, celebrated with many speeches and much congratulation, was concluded by a grand display of fireworks from the Levis shore, which after a hopeful beginning came to an untimely end in about twenty minutes, to the great disappointment of the assembled thousands. About half an hour later, however (when the French officers had really finished their dinner), the pyrotechnic display recommenced, and from the noise and length of time expended over it must have been a very successful show. Unfortunately, the wind set in our direction, so that we obtained a view of the smoke and little else.

The pageant on the Plains of Abraham was an unqualified success. No expense or trouble had been spared, and when it is considered that some 4,000 persons took part in producing the various scenes it will be conceded that the Master of the Pageant (Lascelles) had no light task before him when he undertook the post of Director of Ceremonies. The brilliant success of each scene amply repaid the trouble and care expended upon it, for colour and scenery, costume and effect were blended in a manner

both picturesque in themselves and highly suitable to the beautiful position chosen for the pageant.

Thus was it possible to lose oneself in retrospect upon historic ground, and with a mind's eye subject to anachronismal astigmatism to fuse together in a few short hours the story of Quebec, from the landing of Champlain in 1608 to the time of Wolfe and Montcalm, while the spirit of the people present told of fresh history in the making—French and British together, in remembrance of a brave past, uniting in one common hope and interest for the future under the flag of the Dominion.

The visit to Quebec was not devoid of its elements of humour. Did not the amorous N.O. catch the answering glance of the costumed beauty, and expend most of the evening in ascertaining that the seventeenth-century costume does as well for a boy as for a girl! Did not two N.O.'s journey out to the militia encampment and lunch with the Highlanders, and respond to their many and full-throated cheers for the British Navy with the best they could do! And did not the whole naval flotilla succumb to a night torpedo attack, which the searchlights wandering in every direction "failed" to discover! Did not all the ships in the river blow up simultaneously in realistic fashion with a hundred rockets apiece from the several forecastles, at the expense of the British taxpayer, while the guns made as much noise as possible, according to Admiral's order, "because the ladies like it!"

Balls, receptions, garden-parties and ship-parties made the time pass all too soon, and hearts were lost at Quebec that took at least two days and the prospect of the Dublin Horse Show to heal again.

One incident may be added which reveals the other side of the brave N.O. The cruiser *Venus* had been detailed on the voyage up the river to help drag a collier off the rocks which had piled herself up in a fog. On taking up her station later on the cruiser crossed the bows of the *Russell* on change of tide. Somehow the eight-knot tide drove her on to our bows while we were at dinner. When a noise of a heavy door banging forward was heard and the ship trembled, we thought that the marine party responsible for closing water-tight doors in the evening were getting tired, and had

let one of these hatches down with a run. But when the *Venus* shaved our port-side at an eight-knot speed we saw that an accident had occurred. Orders were promptly given and carried out as to water-tight doors, &c., and then it was ascertained that the after-casemate 6-in. gun in the *Venus* had fouled the lip of our hawse-pipe, hurling itself thirty feet back into the ship and breaking off her trunnions. Had not the *Venus* rotated herself off our bows in this providential manner she and our ram must have become acquainted. The importance, of course, lay in the "might have been," but the quiet contained demeanour of the officers in charge tells of the hero lurking in every man who only appears "as occasion requires."

We escorted the Prince to the mouth of the St. Lawrence, and gave him a send-off on his record passage home. For ourselves, we threaded our economic path homewards through icebergs and fog till we reached Erin's Isle in sunshine with regret that the cruise was over, and the last we heard of the hospitable *Russell* was the deep-voiced song of the 12-in. guns "calibrating" off Berehaven.

Progress of the Medical Sciences.

MEDICINE.

Arterio-Sclerosis.—In opening a discussion on this subject at the French Congress of Medicine, Huchard[1] divides the course of the clinical symptoms into four periods, and lays down corresponding rules for treatment. First comes the *pre-sclerotic* or *arterial period*, in which the symptoms are mainly those of an intoxication, its consequent hypertension, and certain painful crises. Renal insufficiency is early and constant, and occurs with or without albuminuria; it tends to increase the toxic symptoms. Asthma or emphysema may also be present, and intensify the condition. The toxic symptoms at this stage are to be treated by a diet mainly composed of milk and vegetables, foods rich in nucleins (sweetbreads, brains, liver, beans and lentils) being absolutely forbidden. Theobromine may be given to increase elimination, with $\frac{1}{6}$ to $\frac{1}{4}$ of a grain of thyminic acid, which increases the solubility of uric acid. The hypertension may be decreased by massage, gymnastic exercises

[1] Huchard, *Gaz. d. Hôp.*, 1908, lxxxi. 1191.

and hydrotherapy: carbo-gaseous baths and diuretic mineral waters are useful. Trinitrin or some similar drug may be prescribed, but the iodides are to be avoided, as they are useless at this stage. Neither high-frequency currents nor the administration of so-called anti-sclerotic sera are of the least value.

The second period he terms the *cardio-arterial*, characterised by manifest lesions in the heart, blood-vessels, and kidneys. The toxic symptoms are more intense, and to these are added insomnia, dyspnœa, tachycardia, arhythmia, and a tendency to dilatation of the heart. Œdema, either visceral or peripheral, may also make its appearance at this stage. The treatment resolves itself into milk diet, with or without some vegetable food, the reduction of chloride intake, together with cardiac tonics, vaso-dilators and diuretics. Very small doses of sodium or potassium iodide (3 to 7 grains) may be given for ten to fifteen days in each month.

The third, or *mitro-arterial period*, is merely an exaggeration of the second. In this all the cardiac cavities and orifices are dilated, there is general dropsy, considerable dyspnœa, and attacks of syncope and enfeebled cardiac action. The amount of urine is much diminished, and albumen is frequently present. Among the complications of this stage are pulmonary œdema and infarction with hæmoptysis, right-sided pleural effusion, and uræmia. The treatment consists of milk diet, digitalin and theobromine.

The fourth period is not reached by all patients, and is marked by the train of symptoms consequent on extreme *cardiac dilatation*. The œdema is extreme and intractable and extends to the serous cavities, the lungs are engorged, and the liver congested and tender to percussion. Drugs are useless; neither digitalis nor theobromine have the least effect. The only measures which will relieve the patient are those which promote diuresis by mechanical means, of which the most potent is the reduction of the intake of fluids. When the urinary flow has been re-established, the ordinary drug treatment may be resumed.

Lancereaux[1], on the other hand, gives larger doses of iodides even in the early stages, especially to the gouty. The iodides should be omitted for one week in each month, and efficient purgatives combined with them to ensure proper elimination. Brine baths and tepid douches are also useful. In France, Rogæ, Brides and Salins-de-Moutiers are recommended for the pre-sclerotic stage; Evian or Vittel when cardiac changes have become established,

In the *symptomatology*, Rudolf[2] calls attention to the cases which occur without marked rise of blood pressure; indeed, occasionally the pressure is actually below normal. This may

[1] Lancereaux, *Bull. Acad. de Méd., Par.*, 1908, 3 s. lix. 597.
[2] Rudolf, *Am. J. M. Sc.*, 1908, cxxxvi. 374.

be due to two causes: the area affected by the sclerosis may be too limited to make any impression on the general arterial pressure, or the heart may have failed. He also points out that many cases do better when the blood pressure is not too much reduced by treatment.

The *cerebral symptoms* have been grouped by Albrecht[1] into two classes: those seen in the slighter cases, and those which characterise advanced or small lesions. Among the former are dizziness, an irritable and emotional temperament, forgetfulness, mental hebetude, and marked susceptibility to the effects of fatigue, alcohol and nicotine.

In the severe forms mental confusion, restlessness and alienation are observed. With these may be combined disturbances of speech without actual stammering, transient localised paresis, increased reflexes and rheumatoid pains in legs and loins. The former type of case is difficult to diagnose from neurasthenia, and the latter from general paralysis; some help may be obtained by noting the condition of retinal arteries.

The *ætiology* of arterio-sclerosis is, as J. Oliver[2] has pointed out, often multiple, though one factor may predominate in any given case. Heredity is an important predisposing cause, but the immediate causes are hyperpiesis, or intoxication of an exogenous or endogenous nature.

Lancereaux considers gout and lead poisoning to be the main precursors of arterio-sclerosis; the influence of tobacco, alcohol and intestinal toxins he thinks has been over-rated.

Huchard[3] has analysed 835 cases out of 15,000 seen in his practice. The histories were as follows:—

Gout, 323; rheumatism, 232; syphilis, 209; abuse of tobacco, 181; acute infectious fevers, 67; diabetes, 48; abuse of alcohol, 27; malaria, 14; climacteric disturbances, 12; nervous and mental disorders, 19.

In 555 no special antecedent conditions could be traced.

Theyer[4], investigating the influence of acute specific fevers, found that among 189 people between the ages of ten and fifty years who had had typhoid, 48 % had palpable arteries, whereas among ordinary healthy persons the percentage was only 17.5. Schlayer[5] found adrenalin-like bodies in normal blood serum, but, curiously enough, persons suffering from chronic nephritis had sera less active in raising blood pressure than normal individuals.

Recent experimental work.—A considerable amount of experimental work has been done during the past five years, mainly on rabbits, in which certain arterial lesions may be produced by various methods. José, Erb, Ziegler, and Lissauer have obtained

[1] Albrecht, *Vreljschr. f. gerichtl. Med.*, 1907, 3 F., xxxiii. 83.
[2] G. Oliver, *Clin. J.*, 1908, xxxii. 358.
[3] Huchard, *Bull. Acad. de Méd., Par.*, 1908, 3 s. lx. 59.
[4] Theyer q. F. F. Smith.
[5] Schlayer, *Deutsche Med. Wchnschr.*, 1907, xxxiii. No. 46.

corresponding results, which may be held, therefore, as well authenticated. Adler[1] has summed up this work in a recent paper, from which the following conclusions may be drawn. In rabbits a degenerative process, confined practically to the aorta, and thus *not* resembling the condition known as arterio-sclerosis in man, may be induced experimentally by the injection of various substances. Among these are (1) substances producing a rise of arterial blood pressure, such as adrenaline, ergotine, digalen, barium chloride, hydrastine, and nicotine; (2) substances which either have no effect on arterial blood pressure, or tend to depress it, such as euphthalmine, paraganglin, a mixture of amyl-nitrite and adrenaline, acids, ferments, normal saline, phlorizin and phloretin, lead carbonate in normal saline solution, other metallic salts, and also putrid organic material; (3) bacterial injections—only a few experiments of this nature have been made, but their importance, if confirmed by subsequent experience, is obviously very great. The bacillus typhi and streptococci have been employed with positive results, the most interesting feature in these experiments being that the type of arterial degeneration produced is said to resemble more closely the one common in man.

Adler points out in criticism of these results that although sudden death from cerebral hemorrhage is common in rabbits undergoing injections of adrenaline (which seems to point to degeneration of the smaller cerebral arteries as the result of increased blood pressure), there is not much in these experiments taken as a whole to support the view that hyperpiesis is a common pathological antecedent of arterio-sclerosis. The results are uncertain even in rabbits, and cannot be extended to other animals such as dogs and monkeys. Dosage does not appreciably influence the results, but older animals, and those who are otherwise diseased or in poor condition, are said to react more readily.

Loeper and Boveri[2] found that an excess of calcium salts administered to rabbits rendered them more susceptible to the action of adrenaline, ergotine and pressure substances of that class.

Some interesting experiments by Klotz[3] seem, however, to show that arterial blood pressure may affect the nutrition of the middle coat of the aorta, much in the same way as do adrenaline injections. He suspended medium-sized rabbits by the hind legs for three minutes every day during periods of 92 to 130 days, a proceeding which he showed tended to raise the blood pressure in the aorta. Five rabbits were employed, and all showed changes in aorta, carotids, subclavians and brachials. In the peripheral vessels, in contra-distinction to the aorta, the primary lesion was found in the tunica intima.

When we come to correlate the experimental findings with the

[1] Adler, *Am. J. M. Sc.*, 1908, cxxxvi. 241.
[2] Loeper and Boveri, *Riforma. Med.*, 1907, xxiii. 986.
[3] Klotz, *Centralbl. f. allg. Path. u. Path. Anat.*, July, 1908.

results of clinical experience, certain broad facts seem to stand out clearly. In the first place it is necessary to draw a clear line between inflammatory processes, such as result from lues (endarteritis proliferans and obliterans) and purely degenerative lesions such as atheroma and arterio-sclerosis. Secondly, we must realise that the former is a senile change in the main, whereas the latter is not uncommon in quite young people, and usually begins in the third decade. Simnitzky found among 138 autopsies on persons under twenty-five that 38, or 27.5 %, showed sclerotic changes. Although the experimental evidence that this can be produced by merely raising the blood pressure is not at present very strong, there is considerable, not to say overwhelming, clinical evidence of the importance of this factor in the human subject. Among 4,000 persons of the so-called "labouring" classes examined, it was found that a very high percentage had thickened radial arteries, while in left-handed persons the left radial is found to be affected in some cases where the right is normal.

Toxic conditions in rabbits tend to produce aortic atheroma, whether the toxins raise the arterial pressure or not, and there is some evidence to show that the lesions met with in young persons after acute specific fevers are also of this type.

As regards the experimental evidence on the question of treatment, it is interesting to note that the action of iodine—which, in the form of iodipin, was thought to counteract the effect of adrenalin—has been found by subsequent researches to have no effect. Oil, however, and in especial sesame oil (which enters into the composition of iodipin), has been shown by Koranyi to counteract the digalen[1].

J. M. FORTESCUE-BRICKDALE.

SURGERY.

The radical treatment of carcinoma of the bladder is of recent origin, and the results so far obtained are not so good as those effected by operation for cancer in other parts of the body. Berg,[2] in an excellent paper on the subject, explains this partly by the difficulties which exist in dealing with this organ, and partly by the want of appreciation of certain pathological facts.

The modern ideas of a successful operation for carcinoma demand that the affected lymphatics and glands, as well as the primary mischief, should be removed; but this point has been largely overlooked in dealing with the bladder.

Klebs[3] stated in 1870 that carcinoma of the bladder is always secondary to disease of the prostate, rectum, or uterus, and that in women, at least, a primary carcinoma of the bladder cannot

[1] Koranyi, *Deutsche Med. Wchnschr.*, 1907, No. 5.
[2] *Ann. Surg.*, 1908, xlviii. 355. [3] *Handb. d. path. Anat.*

occur. This question has been carefully considered by Mandlebaum,[1] who found " that the papillary and the flat or squamous-celled carcinomata do occur as primary tumours in the bladder, but that the fibro- or scirrhous-carcinomata, and the adeno-carcinomata are very often, if not always, secondary to primary tumours of the prostate, uterus, or rectum." These investigations are of the greatest importance, for they show the necessity of a correct histological knowledge of the nature of the neoplasm, and suggest that many recurrences after radical operations are due to the leaving behind of an unrecognised primary focus in some adjacent organ.

These remarks have an important bearing on the extent of the operation of radical cure, and Berg[2] says the operator must not only consider how to remove the disease widely, but also how to restore or substitute the function which belongs to the urinary bladder. The latter question has not yet been finally settled, but the use of the vagina or intestine as a substitute for the bladder by implanting the ureters into them has been largely abandoned because of the danger of an ascending pyelonephritis resulting from an infection of the ureters from these structures. The attachment of the ureters to the skin, or the direct drainage of the pelvis of the kidneys in the loin (nephrostomy) are attended by similar risks of infection, and are productive of much discomfort, though they are unavoidable in some cases.

The question of the desirability of partial or complete resection of the bladder has given rise to much discussion. Raffin's[3] statistics are in favour of partial resection, for of 30 cases of total excision of the bladder for carcinoma there was a primary mortality of 56.5 per cent., whereas in 96 cases of partial cystectomy the operative mortality was only a little more than 21 per cent. Moreover, the ultimate results were better in partial excision, for 21 out of 50 cases were known to be free from recurrence from six months to six years after operation ; but of the cases that could be traced after complete excision, only 5 survived a period of six months. On the other hand, Watson considers that the operation of choice is a preliminary bilateral lumbar nephrostomy, with ligation of the ureters, followed by total cystectomy. Berg himself considers that where the disease is primary in the bladder, and limited to one part of it, a partial cystectomy, together with the removal of all lymphatics and glands, is as good a protection against recurrence as a complete extirpation of the viscus. He would, however, limit the operation to cases in which not more than a third of the bladder is involved, and preferably when the situation of the growth is on the fundus and lateral walls. When the ureteral orifice is involved in the disease, the partial cystectomy should be accompanied by reimplantation of the ureters

[1] *Loc. cit.* [2] *Ass. franç. d'Urol. Proc.-verb.*, 1905, Par., 1906, 1.
[3] *Surg., Gynec. and Obst.*, 1907, v. 315.

into the remaining portion of the bladder. It appears possible to remove one half of the bladder without materially interfering with its function.

When, however, the cancer is diffused over the greater part of the bladder, or when there is a severe cystitis such as would increase the dangers of ascending infection if the ureters were reimplanted in the bladder, the complete extirpation should be performed, and in such cases a preliminary nephrostomy is indicated.

* * * *

Volkmann's ischæmic paralysis is a comparatively rare affection with which every practitioner should be acquainted. As the disease is not so well known as it should be, reference may here be made to a paper by Dr. Taylor,[1] of New York, who has collected 59 cases.

In all but two of these the forearm (flexor muscles) was involved. The other two cases occurred in the flexors of the leg and foot. The large majority of cases occur in children from three to twelve years of age, probably because the circulation of their muscles is more easily disturbed. The underlying cause in all these cases is ischæmia (or, better, oxygen deprivation), induced by direct compression of the vessels and muscles, or by contusion, laceration, thrombosis, or embolism of the vessels—alone or in combination. At least 80 per cent. of the cases have followed fractures of the upper limb where splints or plaster bandages have been too firmly applied. Complete ischæmia for more than six hours continuously is almost sure to be followed by serious contracture.

At the time of injury the circulation distal to the fracture is interfered with by the displacement of the fragments and the effusion of blood. Too tightly applied dressings enhance the obstruction to the arterial supply, and also add direct pressure upon the muscle substance itself. Riedinger believes the direct mechanical pressure upon the muscles is the more important of these factors; but in either case if the pressure continues for more than six hours the muscle substance rapidly degenerates and shortens, causing the typical deformity. The muscle is replaced by connective tissue, varying in amount with the severity of the case, and with the lapse of time the cicatrix becomes firmer and shorter, and the deformity more fixed.

The nerves, at first, may or may not be affected; but later, whether primarily involved or not, they may suffer degeneration from the pressure of the contracting cicatrised muscles, and this in turn results in atrophic changes, by which they become converted into fibrous bands, which are sometimes nodular from irregular compression.

The symptoms depend upon the degree of ischæmia present,

[1] *Ann. Surg.*, 1908, xlviii. 394.

and its duration. In severe cases the patient complains of pain almost immediately after the application of the tight dressings; and if the splint is not removed the pain increases, and a marked swelling occurs in the hand and fingers, with purple discoloration and the formation of blebs. Within twenty-four hours the hand assumes the claw shape resulting from contracture of the flexor muscles, and if the dressing is not then removed gangrene is very apt to occur a short distance below the elbow.

When the mischief is fully developed the elbow is slightly flexed, the forearm pronated, the wrist slightly flexed, and the fingers strongly flexed in the claw-hand position. In the severest cases the finger-nails are driven into the palm of the hand.

When nerve damage (usually median and ulnar) is present trophic changes (blue, cold, glossy, thin skin) develop with muscular atrophy in the nerve field, in addition to loss of sensation and paralysis.

In less severe cases the symptoms develop more slowly.

The condition should not be confused with paralysis due to nerve injury where the muscles are flacid, and contracture, when it does occur, is late in appearing and slow in development.

It is important, both for prognosis and treatment, to determine whether the nerves have been involved. If the muscle responds to both faradic and galvanic currents there is no nerve injury; if the muscle responds to galvanic, but not to faradic current, there is nerve injury; if the muscle does not respond both to galvanic and faradic currents, there is complete muscle injury, but nerve injury is not determined.

The prognosis varies with the degree of muscle and nerve damage, and also depends upon the promptness and energy of treatment.

The longer ischæmic paralysis has existed, the more difficult it is to cure. Dressings should be at once removed if the patient complains of increasing pain, and in all cases in which the primary dressing has been removed no further attempt should be made to immobilise the muscles. Massage, electricity and active and passive motion should at once be used to restore the circulation in the damaged muscles. These measures should be repeated every few hours, until the muscles are in good condition again, when attention may again be given to the fracture itself.

After the condition has manifested itself, there is a choice between non-operative and operative treatment. Non-operative treatment consists in baths, massage, electricity and passive motion. Some authors advise repeated extension of the wrist and fingers, under an anæsthetic if necessary. Non-operative treatment is tedious, and on the whole unsatisfactory. It gives no relief to compressed nerves.

Operative treatment gives quicker and more complete results. This consists in (1) tendon lengthening, or (2) resection of both

bones of the forearm. Elongation of the flexor tendons is tedious, but has the advantage of not shortening the forearm; resection of the radius and ulna is quicker, and the slight shortening causes no functional disturbance. Both operations have, however, given good results by relieving the tension, favouring voluntary contraction, and increasing the circulation and nutrition of the muscles.

In every case of nerve compression the nerves should be released, and trophic and sensory disturbances can be relieved by neurolysis, even in cases which give no hope of the return of motor power.

Regeneration cannot occur if the muscles have been completely changed into fibrous tissue, but since this condition of the muscles cannot be determined clinically, no case should be denied the benefit of the doubt and refused the operation.

The post-operative treatment consists in baths, massage, electricity and movement until function has been restored to the muscle. The object of after-treatment is to cause absorption of cicatricial tissue and regeneration of muscle tissue. Hope must not be given up for months, as these cases are invariably tedious, especially when the nerves have been involved.

JAMES SWAIN.

Reviews of Books.

Atlas der Klinischen Mikroskopie des Blutes. Zweite auflage, bearbeitet von Privatdocent Dr. E. MEYER and Professor Dr. H. RIEDER. Leipzig: F. C. W. Vogel. 1907.

This atlas consists of a series of plates, beautifully executed in colours, and one or two in monochrome, of the microscopic appearances of the blood in disease. A short, but clear and adequate, descriptive letterpress, with explanatory diagrams relating to the coloured plates, is also given. It forms a most valuable help to the student beginning the study of blood-diseases, and a useful atlas for reference to those more advanced in this work.

An Index of Treatment by Various Writers. Edited by ROBERT HUTCHISON, M.D., F.R.C.P., and H. STANSFIELD COLLIER, F.R.C.S. Pp. xiii., 877. Bristol: John Wright & Sons, Ltd. 1907.

There is no class of book whose value it is more difficult to correctly estimate than one arranged in the dictionary form, the subjects merely coming in alphabetical order. Presumably it is

intended that the practitioner shall be able to take such a volume from his shelves when his own resources are exhausted, and rapidly imbibe from its pages new inspiration as to treatment. Looked at from this point of view, it is important that the recommendation should embrace every possible therapeutic device or agent which has proved efficacious even in hands other than those of the writer of the particular paragraph. It is true that for the most part this is fully carried into effect in the present work, and many excellent surveys of treatment are included, notably those on "Hæmorrhoids" and "Rheumatism." Dr. Bulloch's article on "Bacterio therapeutics," extending over twenty pages, contains, however, quite the most valuable information which the book conveys.

Elsewhere there is sometimes a tendency to insist on one line of treatment which may have proved successful in the writer's experience, to the exclusion of alternative suggestions. A bad example of this is to be found under the heading "Dyspepsia," where, if anywhere, there is scope for alternative suggestions. The subject is dismissed in a relatively small space, and contains nothing of interest or value to a harassed doctor at his wits' end for some really practical hints on this common and long-lasting complaint.

It would have been better, too, if in treating of "Inflammations of Bone," so-called Growth Fever had been relegated to a less prominent place. Unfortunately, the tendency to fall back on this or some equally slip-shod diagnosis is responsible for only too many delays in operating on the more common and more dangerous forms of acute panosteitis or epiphysitis.

Apart from a few blemishes of this nature, which indicate the erudition of the writer rather than judgment and practical experience, the book is a useful one; though it must be confessed that unless the publishers intend to bring out a revised edition every year, this *Index of Treatment* falls far short of the well-known *Wright's Annual*, which has the supreme advantage of being up to date, and scarcely less comprehensive in scope.

Perhaps the best advice we can give is that this volume should be first purchased and followed up by the successive volumes of the *Annual* as they appear.

A System of Syphilis. Edited by D'Arcy Power, M.B. Oxon., F.R.C.S., and J. Keogh Murphy, M.D., M.C. Cantab., F.R.C.S. Vol. I. Pp. xxxv., 380. London: Oxford Medical Publications. 1908.

The Oxford Medical Publications have already achieved a well-deserved reputation and a widespread popularity, but the *System of Syphilis* of which this forms the first of six volumes, promises to be the most striking contribution to medical literature.

The names of the joint editors lead us to believe that the work will be of the very highest literary as well as scientific standard, and it is in this belief that we venture to question whether the volume has not been artificially inflated by the use of an exceptionally large type and lavish spacing (*vide* pp. xxv.—xxxii. of the Introduction), while we deplore the appearance of the modern journalistic device of reproducing the signature of each contributor as though he were some herbivorous athlete. Scientific literature stands in no need of these catch-penny methods, which render the unblushing self-advertisement of the *Physician's Legacy* by contrast, inarticulate in its modesty. Apart from these points, which are after all mere questions of taste, the matter in this volume is of the very best.

The Introduction, by Sir Jonathan Hutchinson, gives us the opportunity of studying the mature observations of a true master of clinical method whose contributions to medical and surgical knowledge have covered so vast an area that we, his contemporaries, cannot perhaps give to them the full meed of appreciation that is their due. There is a valuable note of warning, which more than once appears in his introduction: "Unless much caution be exercised . . it may be reasonably feared that the knowledge of syphilis for practical purposes may be hindered rather than advanced by the recent brilliant discoveries. It might have been safer to continue to base our conclusions on careful observations of what actually occurs in the human subject." With this example of cautiousness, it is to be regretted that Sir Jonathan once again throws the weight of his opinion into the scale of early marriage after acquiring syphilis. It is not an extreme section of faddists who plead for a longer interval than two years between the infection and the permission to marry. His views on beginning mercurial treatment directly the diagnosis is made, and not waiting for the appearance of secondary symptoms, are most acceptable, and in this connection Sir Jonathan points out that the discovery of the spirochæte may place at our disposal a trustworthy means of recognising syphilitic chancres in their earliest stages. Brief mention is made of the controversial question of the relationship of yaws and syphilis, which Sir Jonathan maintains to be the same disease; indeed, one sentence sums up his belief in truly aphoristic fashion: "Whenever an Englishman contracts yaws abroad he comes home with syphilis." As regards treatment, he advocates mercury administered by mouth according to the "small-dose" plan, and expresses his fear lest mercury should suffer a temporary eclipse from less certain and more dangerous therapeutic innovations.

The first four chapters of the volume deal with the history of syphilis, and come from the pen of that able medical historian, Dr. Iwan Bloch. He sums up the evidence of the importation of syphilis into Europe as a new disease in the Middle Ages thus:

"I am of the conviction (which is shared by those who have an exhaustive knowledge of syphilis and its history, such as Unna, Scheube, Fournier, Liebermeister, Binz, and others) that the certain, irrefutable proof of the modern origin of syphilis rests upon nosological and epidemiological grounds; that the facts detailed amply suffice to prove its American origin; that the sudden transformation of the entire medical literature at the end of the fifteenth century furnishes the most complete explanation —but that positive bone discoveries would dispel every lingering and hidden doubt." The care with which every particle of evidence on the subject is sifted and weighed, the impartial summary of contemporary authors, and the judicial reasoning of his final verdict render Dr. Bloch's article one of engrossing interest; though there are occasions when one is tempted to ask whether the voice is not that of a brilliant advocate anxious to compel a decision in his favour rather than that of the open-minded judge. The four plates in this historical section, representing early illustrations of syphilis (Plates I. and II.), the portrait of Fracastorius (Plate III.) and the tailpiece of Fracastorius's poem (Plate IV.), are excellently reproduced and fully justify their inclusion.

"The Microbiology of Syphilis," by Professor Metchnikoff, deals with the many disappointments in pathological research which preceded the results of Schaudinn and Hoffmann, and carry us into the latest phases of our modern knowledge of the part played by the *spirochæta pallida* in the pathogeny of syphilis. Metchnikoff regards the facts as almost conclusive in favour of the ætiological part played by this organism. The description of the natural history of Schaudinn's spirochæte and its connection with trypanosomes and other spirochætes is admirable. So, too, the praise to be bestowed on Chapter X. (Technical Methods of Recognising the Organism) must be the very highest. The value of the ultra-microscope, in demonstating rapidly and simply the unstained organism in a fresh film preparation, is rightly insisted on, and the various more complex staining methods are described in full and intelligible detail. The practical importance of the bacteriology of the disease in the treatment of the syphilitic patient is made very clear. But the translator cannot always be congratulated on having made the author's meaning plain. There is a puzzling sentence at the top of page 69. It is by no means easy to discover to what cells, whether polynuclear leucocytes, or the mononuclear elements described as "embryonic cells," the so-called "plasmatic cells" are intended to be related. Such a blemish as inserting the extra "g" in Noegerath's name on page 88 should not have passed the proof-reader.

Dr. Andrewes contributes an admirable section on the general pathology of syphilis, in which the clinical aspects are never lost sight of. The illustrations are objects of wonder and envy.

Colonel Lambkin's description of the primary lesion and early secondary symptoms in the male falls very far below the remainder of the volume in many respects; personal observations lend weight to a clinical survey, but the personal pronoun is only rarely an adornment. There is a complete absence of any reality in the description of symptoms, never does it compel a mental picture in the imagination of the reader. The section consists mainly of a dogmatic cataloguing of features in a style rendered familiar by only too many students' examination cram-books, and it contrasts poorly with Mr. Shillitoe's illuminating method of dealing with the primary lesion and early secondary symptoms in the female. This is a contribution to clinical medicine which will live even though all the rest of the volume were displaced by the advances of pathology. Congenital syphilis also meets with equally satisfactory treatment at the hands of Dr. Still, whose writings are too well known and highly appreciated to require further commendation.

The illustrations, reproduced from direct colour-photographs, are quite out of the common, and are real aids to the digestion of the letterpress. Finally, the bibliographies clinch the value of the volume, and stimulate the inquiring mind to more extended pasturage.

Cancer: Relief of Pain and Possible Cure. By SKENE KEITH, M.B., and GEORGE E. KEITH, M.B., C.M. Pp. ix., 155. London: Adam and Charles Black. 1908.

This little book has been written to advocate the use of hypodermic injections containing iodipin, arseniate of iron, cacodylate of iron, and cinnamate of sodium. Numerous cases are recorded to show that benefit follows their use, both in relief of pain, improvement in the general condition of the patient, and diminution in the growth. Most of these are cases of breast cancer, but there are few of sarcoma. We noticed one case of disappearance of the growth, but occasionally malignant growth spontaneously disappears. The method rather reminds one of a prescription written by a doctor who has little faith in the value of any one drug for the cure of his patient's ailment, and therefore combines all he has ever heard of at all likely to do any good, in the hope that one or the other may do some good, but in what way and by what means he hardly knows. Perhaps the relief of pain in the cases treated by the author is due to the mental effect of the injection, and the improvement in general condition due to hope of ease in the minds of the patients. If the injections can really cause a decrease in the cancerous growth, why can they not remove the tumour in time in a certain proportion of the cases, as Coley's fluid does in sarcoma? Most of the cases treated have been inoperable ones. We do not like the suggestion of the

authors to treat very early cases for some weeks by this method before resorting to operation, as we think no time should be wasted on any unproved remedy in such cases. No doubt such cases would be good test cases for this remedy, but in the interest of the individual patients we should strongly condemn such treatment.

Precious Stones: For Curative Wear and other Remedial Uses, likewise the Nobler Metals. By W. T. FERNIE, M.D. Pp. xviii., 486. Bristol: John Wright & Sons, Ltd. 1907.

Here is curious medley of fact and fable, unearthed somewhat haphazard from many a forgotten book, and adorned with many a wise saw and modern instance. Scraps of folk-lore, siftings of history, and quotations from fiction ancient and modern, all contribute to illustrate the strange imaginings of human peoples in times past as well as present.

Wilkie Collins, with his *Moonstone*, is to be found bearing testimony hard by Ben Jonson, whose *Alchymist* (1610) provides a cure for epilepsy:—

> "My meat shall come in; in Indian shells;
> Dishes of agate, set in gold, and studded
> With emeralds, sapphires, hyacinths and rubies;
> The tongues of carps, dormice, and camels' heels;
> Boiled in the spirit of Sol and dissolv'd pearl;
> —Apicius' diet 'gainst epilepsy!
> And I will eat these broths with spoons of amber,
> Headed with diamonds and carbuncles."

Holy Writ and heathen mythology lend their aid to support the officinal preparations of the earliest London Pharmacopœias. Crystal-gazing, the practice of selling butter by the yard by the banks of the Cam, and the making of good cheese, all by some chance find a place in these pages: nothing comes amiss to the inquiring and uncritical mind of Dr. Fernie. The evils of cold-water drinking are vividly recalled by meeting with the old doggerel rhyme:—

> "Full many a man, both young and old,
> Has gone to his sarcophagus,
> By pouring water icy cold
> Adown his hot œsophagus."

Nothing comes amiss to Dr. Fernie, and he is in no wise trammelled by the limitations of his book's title. He has taken heart of grace from Pliny's remark, "Nullus est liber tam malus, ut non aliqua parte prosit," until, emboldened by the encouragement derived from his books, the author introduces himself as now

> "Talking of stones, stars, plants, of fishes, flies;
> Playing with words, and idle similes;"

where we will take leave of him with grateful acknowledgment for having allowed us to peep over his shoulder into a most amazing wonderhouse of superstition and phantasy.

The Law in General Practice. By STANLEY B. ATKINSON, M.A., M.B., B.Sc. Pp. viii., 239. London: Henry Frowde and Hodder and Stoughton. 1908.

Mr. Atkinson is well qualified to write upon this subject, and we can thoroughly recommend his book to all medical men commencing, or not fully experienced, in practice. It deals with a large number of contingencies in matters forensic, ethical and medical, and abounds with useful hints and profitable warnings. The book is easily readable, and, if well digested, should prove of the utmost value to the young professional man, in affording him a ready-made experience and helpful counsel in dealing with many perplexing occasions almost certain to beset his early career.

A System of Medicine. By Many Writers. Edited by Sir T. CLIFFORD ALLBUTT, K.C.B., M.A., M.D., and HUMPHRY DAVY ROLLESTON, M.A., M.D. Vol. IV., Part I. Pp. xiv., 764. London: Macmillan & Co. Limited. 1908.

Volume IV. of the original *System* has now been divided into two. Twenty authors contribute some forty chapters on diseases of the liver, pancreas, ductless glands and kidney.

Under the heading "Diseases of the Liver" there appears an entirely new article by Dr. Arthur Keith on hepatoptosis. Glénard, in 1892, found this condition in 20 per cent. of some 3,500 cases presenting themselves for treatment at Vichy. Many of these are incorrectly so classified, and are called partial only, whilst the true hepatoptosis is never an isolated condition, but always is part of a general sinking of the viscera, the condition now well known as visceroptosis. (Vol. III., 860.)

Another new article, that on "Biliary Cirrhosis," has been contributed by Dr. Morley Fletcher, and in place of the previous article by Dr. Fitz, of Boston, U.S.A., new articles on "Diseases of the Pancreas" have been written by Dr. Bosanquet and Dr. Newton Pitt. The authors do not write with any enthusiasm on the results of Cammidge's test, which, they say, has not given good results excepting in the hands of its inventor.

The article dealing with the thyroid gland is enriched by the addition of an entirely new account of myxœdema by Dr. George R. Murray, and the account of exophthalmic goitre by Dr. Hector Mackenzie has been rewritten. It takes a long time to establish any new treatment on a satisfactory basis; accordingly treatment by means of the fresh milk of dethyroidised goats, or by the dried milk preparation called Rodagen, are as yet only in the experimental stage, and hence there is still scope for the surgeon, even although in the hands of such a skilful surgeon as Kocher the operation is attended with considerable risk to life, and should not

be lightly undertaken until every other means has failed to produce amelioration.

The volume concludes with over two hundred pages on "Diseases of the Kidney," a new article on "Nephritis" by Professor J. Rose Bradford taking the place of the previous one by Dr. Dickinson. It will be seen that this volume is to a great extent new work, and not merely a reprint of the old edition; a very complete index by Dr. Jex-Blake adds greatly to its utility.

Tuberculosis in Infancy and Childhood: its pathology, prevention and treatment. By Various Writers. Edited by T. N. KELYNACK, M.D. Pp. xiii., 376. London: Baillière, Tindall & Cox. 1908.

The editor believes that the study of tuberculosis in early life, as well as the organisation of ways and means to secure the prevention and arrest of the disease, are but in their beginnings. This handsome volume—the combined work of forty-one contributors—is an expansion of the symposium on the subject which constituted the July number of the *British Journal of Tuberculosis*, 1907. The writers are mostly well-known specialists, who give expression to the best of English and American opinion. Norwegian, Swedish, Swiss and French writers join in the work, so that it may be considered as international, giving everything of the latest as regards the protection of childhood and the solution of the tuberculosis problem. Thirty-nine chapters on as many different topics leave little more to be said as regards our present knowledge. It is not easy to select any one of these for special comment, the work is one for careful study rather than a cursory review, but the differentiation of bovine tuberculosis is, perhaps, one of the most important. On this subject Dr. Nathan Raw sums up his views as follows:—

1. Tubercle bacilli of *typus humanus* produce pulmonary tuberculosis, tuberculous ulceration of the intestines, tuberculosis of the abdominal glands.

2. Tubercle bacilli of the *typus bovinus* produce mesenteric tuberculosis, tuberculous peritonitis, tuberculous glands, tuberculous affection of the bones and joints, tuberculous meningitis, acute miliary tuberculosis, and probably lupus.

He further summarises our present position thus:—

1. Human and bovine tuberculosis are different varieties of a common species.

2. The human body is susceptible to both forms.

3. Bovine tuberculosis is frequently conveyed to humans, both by means of infected food and by contagion.

4. These two forms of tubercle are antagonistic to each other.

5. A mild attack of bovine tuberculosis protects against phthisis pulmonalis.

6. Tuberculine from human sources has a marked effect on bovine lesions.

7. Tuberculine from bovine sources has a curative effect on pulmonary tuberculosis.

The Alpine and American stations for tuberculous children are well described, but climates are becoming a secondary consideration.

Light and X-ray Treatment of Skin Diseases. By MALCOLM MORRIS and S. ERNEST DORE, M.D. Pp. x., 172. London: Cassell and Company, Limited. 1907.—This work is a useful addition to Cassell's *Modern Methods of Treatment* Series. It is the first attempt of which we are aware to review dispassionately the new physical methods of treatment in dermatology. All explanation of the physics and electrics involved in the production of the various radiant phenomena are excluded. Description of apparatus is also left out. This limits the work to the dermatology of the subject, and is, therefore, of greater value to practitioners, nurses, and all who wish to know succinctly the scope of a new series of therapeutics. The authors were among the earliest to use the light lamps in the treatment of skin diseases in England. They have shown judgment in assessing their own results, and have altogether approached the subject in a most unbiased way. It might perhaps be said that in some respects they are too pessimistic, though this is preferable to an undue optimism. There is a little uncertainty in some of the cases as to what method of treatment was relied upon most, but this does not greatly matter where the choice of method is largely determined by the nature of the case itself and the choice of the operator. The book should prove a welcome and useful addition to the literature of the subject.

What to do in Cases of Poisoning. By WILLIAM MURRELL, M.D. Tenth Edition. Pp. 280. London: H. K. Lewis. 1907. —A book which has reached its tenth edition hardly needs a review. This one, however has undergone such thorough revision, and has had so many new articles added to it, that it may be well to call attention to the fact that it contains directions for the treatment of poisoning by recently discovered substances such as dionin, stovaine, veronal, ethidene dichloride. The author playfully requests intending suicides, who contemplate employing still more unusual combinations, to first communicate with him, that the book may be kept fully up to date. This scientific enthusiasm has not equally affected his proof reader, who shows signs of breathless haste. Thus we notice the curious statement that rectified spirit contains 90 per cent. of water (p. 57), laburnum is spelt laburnam, mercurial erethism is given as erithism (p. 264).

Perhaps these spellings are intended for a future edition. The applicant for admission to a retreat is told to bring a certificate of "immoral" character attested by two justices, whereas the Act specifies "inebriety" alone. Such a direction might cause needless disappointment to a hopeful candidate under the present state of the law, though some moralists hold that the two terms are identical.

Index-Catalogue of the Library of the Surgeon General's Office, United States Army. Second Series. Vol. XII. O—Periodicals. Pp. 978. Washington: Government Printing Office. 1907.—Only those who have to inquire into the literature of any particular subject can fully appreciate the great value of this monument of painstaking classification of the contents of a library containing 160,412 bound volumes and 282,994 pamphlets. The present volume includes 5,476 author-titles, 10,996 subject-titles of separate books and pamphlets, and 35,324 titles of articles in periodicals. It is only by quoting such figures that we can give to the uninitiated any conception of the extent and usefulness of the work.

Chart. Dr. HEBBLETHWAITE. London: The Scientific Press Ltd.—Of the making of charts there is no end. This is a new one, to be filled in with ink, and red and blue pencils for temperatures, pulse and respirations. The chart is arranged for any intervals of time, and vertical lines should be drawn at the end of each day across the blank spaces allotted to date, hour, day of disease, &c.

Wellcome's Photographic Exposure Record and Diary. 1908.—In addition to the exposure record and diary, which seem most excellently arranged, this pocket-book contains practically all the information necessary about the usual photographic procedures—developing, printing, &c.—for the beginner, and for the matter of that for the more advanced photographer. We notice that the fashionable "time factor" method of development is described, and the time factors for the various "tabloid" developers given. In addition there is a good deal of useful information given about weights and measures, temperatures, &c. The exposure calculator at the end is alone worth the price of this little photographic pocket-book.

Life Insurance and General Practice. By E. M. BROCKBANK, M.D. Pp. xiv., 288. London: Henry Frowde and Hodder and Stoughton. 1908.—The first half of this book describes the routine method of making medical examinations for life insurance. The author hopes that his method will be of assistance to those who make similar examinations for the first time. The second part of the book, on "impaired lives," is, we venture to think, of much more value, inasmuch as all the serious problems in life insurance work are incurred with this class of cases, in which there is scope for much individual skill in diagnosis and prognosis.

The experience of the author, and the views he has gathered from various sources, cannot fail to be interesting and instructive to those who take any interest in the work of life insurance. It must, however, be remembered that no examiner can do more than give his opinion on the present condition of the applicant. Any prognosis of future possibilities is beset with so many fallacies, that it is only fair that the applicant for insurance should have the benefit of whatever doubts may exist.

Manual of Bacteriology. By ROBERT MUIR, M.D., and JAMES RITCHIE, M.D. Fourth Edition. Pp. xxi., 605. Edinburgh: Young J. Pentland. 1907.—In this edition of their widely-used manual the authors have incorporated the results of the research work of the last few years, in addition to a recital of some of the more reasonable hypotheses. Fortunately, however, they have kept the book within the limit of the student's purse, and, presumably, of his capabilities. Syphilis, relapsing fever, and trypanosomiasis are treated at greater length than before. A number of new methods of cultivation and staining are also included. There is no doubt that this manual must be regarded as the best investment a student can make when he commences the study of bacteriology.

Aids to Pathology. By HARRY CAMPBELL, M.D. Pp. viii., 176. London: Baillière, Tindall & Cox. 1908.—It is obvious that a little book of 176 small pages cannot pretend to give an exhaustive account of the known facts of pathology. As a framework, on which the student can build up with details acquired from the *post-mortem* room, the museum, and the laboratory, it must serve a very useful purpose, and it is to be expected that the section on immunity and opsonins will help greatly to elucidate a somewhat difficult problem in serum therapeutics.

Disease, its cause and prevention. By G. E. RICHMOND, M.D. London: H. K. Lewis. 1907.—The main object of this essay is to point out the very large number of diseases which are either spread by food, or directly due to impurities found in articles of diet or articles in common use. If disease is preventable, then it ought to be prevented. To this end medical practitioners should be friends, and not rivals; they should strive for health, and not for patients; their services should be adequately and generously remunerated. To these safe views we can only say, "Quite so."

Diets in Tuberculosis: Principles and Economics. By NOEL DEAN BARDSWELL, M.D., and JOHN ELLIS CHAPMAN. Pp. viii., 184. London: Henry Frowde and Hodder and Stroughton. 1908.—It is difficult to estimate the far-reaching nature of the sanatorium movement; certainly as a means of cure, of prevention and of education it has been an immense power for good, both for the consumptive and for the general welfare of the community. The principles are: the carefully-ordered life, with

freedom from fatigue and worry; carefully-regulated hours of rest and exercise; and, most important of all, abundance of fresh air and generous, but not excessive, feeding. This book shows that these principles are within reach of every class of consumptive.

Protozoa and Disease. By J. J. JACKSON CLARKE, M.B. Part II. Pp. xii., 138. London: Baillière, Tindall & Cox. 1908. —In this interesting little book the author strongly advocates the protozoal origin of various diseases, notably small-pox, syphilis and sarcoma. He first refers to the relationship between the spirochæta pallida and syphilis, and also to the better established one between the trypanosome Gambiense and sleeping sickness. Starting on this ground, he endeavours to prove that various appearances noted in sections of sarcomata are due to a parasite of the protozoan group. His arguments are based largely on analogy, and his attempts to support them by the microscopical appearances are by no means convincing or conclusive. In no case has he been able to trace the life history of the supposed parasite, and it must be confessed that the appearances noted by him in sarcoma cells are suggestive of degenerative changes in the nuclei and protoplasm of cells rather than of parasites. The theories advanced are interesting, but entirely lacking in proof.

Stray Leaves and Some Fruit on Cancer and Tuberculosis. By HENRY D. MCCULLOCH, M.B. Pp. 49. London: John Bale, Sons, & Daniellson, Ltd. 1907.—This is one of the many speculative treatises on abstruse medical subjects in which certain philosophic but unpractical men delight. The stray leaves one can see, but the fruit is not so obvious. On the whole, one may say that no *a priori* reasoning, however inspired, and no careful consideration of other men's work are likely to be of any avail in such fields unless combined with original investigation. Therefore, we can only recommend this work as an incentive to thought, and because of the various quotations it contains; and the incentives are on familiar lines. The book is carefully written. One of the most interesting features is a Sanskrit quotation on the cover, and an ingenious interpretation of the same at the end.

Diseases of the Eye. By J. HERBERT PARSONS, D.Sc., M.B., B.S. Pp. x., 664. London: J. & A. Churchill. 1907.—This book has been written as a manual for students and practitioners. It does not attempt the scientific detail that the author could well have given out of the stores of his knowledge acquired in the laboratory or from wide reading; still, it is based on good scientific lines, and accurately and clearly describes what is essential for a sound practical knowledge of the various affections of the eyeball and of the function of vision. The author does not claim to have dealt exhaustively with the whole range of ophthalmology, but he appears to have omitted nothing that is essential

for his intended readers. The anatomy of the structures of the eye is well dealt with, especially, perhaps, the neurology of vision and the nerve control of the ocular muscles. Refraction is fully considered from a practical standpoint, founded on a groundwork of physics and of physiology. Disorders in the mobility of the eyes is a difficult subject, but it is admirably handled. We know of no description in so limited a space that gives a better arranged or more scientific consideration of the subject of strabismus, diplopia and latent defects in the position of the eyes. The various diseases of the eye are sufficiently described, and the pathological conditions are very thoroughly considered, having regard to the space at the author's disposal. There are many good text-books on ophthalmology, but we think Mr. Parsons has been more than justified in adding to the list. We recommend his manual confidently to anyone who wishes to study diseases of the eye.

Ilford X-ray Plates.—Ilford Company, Ilford.—We have received a sample of these plates, which we have tested, and find them excellent in every way. They are rapid in action, and give good definitions and density. We are very glad to find that at length English manufacturers are thinking it worth their while to cater for the wants of the radiographer, as up to the present the only plates which were superior to others for X-ray work were of Continental manufacture. The Ilford X-ray plates seem, as far as we can judge from the few exposures we have made, to be at any rate equal to, if not superior, to any plate in the market, and we should think they have only to become known to be very extensively used.

Hygiene and Public Health. By LOUIS C. PARKES, M.D., D.P.H., and HENRY R. KENWOOD, M.B., D.P.H. Third edition. Pp. xi., 620. London: H. K. Lewis. 1907.—This text-book has now been established for some years as a sound and reliable guide to the general study of public health. The third edition has been carefully brought up to date, and may be safely recommended to the student for the diploma examinations. The type is clear, and the slight increase in size of the page improves the general appearance of the book.

The Experimental Prophylaxis of Syphilis. By PAUL MAISONNEUVE. Translated, and with an introduction, by FERNAND L. DE VERTEUIL, M.B. Bristol: John Wright & Sons, Ltd. 1908.—This little brochure of about 100 pages gives an account of the work of Metchnikoff and Roux in connection with the ætiology and prophylaxis of syphilis. The author is descriptive rather than critical, but gives a readable account of the subject. The practitioner must not accept all the statements unhesitatingly. Of course much that is written may be applied to every-day cases, but the present state of our knowledge on the subject does

not permit of dogmatism, and at the time of writing this review some of the data require alteration. It is a significant fact that the extent of the syphilis produced varies distinctly with the amount of the virus inoculated, and we cannot, therefore, hope to apply vaccination therapy to this disease. Excision of the infected area is the best practice, but this is not often possible.

Diseases of the Larynx. By HAROLD BARWELL, M.B. Pp. xii., 266. London: Oxford Medical Publications.—Within the small space comprised in this manual, the utmost that could be done satisfactorily is to afford the student and practitioner a brief description of laryngoscopy and the various affections of the larynx. This the author has done admirably, the illustrations are clear and useful, the text sound, practical and well-balanced, and the directions for treatment just the kind that the general practitioner needs for guidance and help in cases of difficulty coming within the scope of his daily work.

Physical Methods in the Treatment of Heart Disease. By ARTHUR G. DAMPIER-BENNETT. Pp. 111. Bristol: John Wright & Sons, Ltd. 1907.—The author of this volume gives a very clear description of the various methods which may, in some cases, be successfully employed in the treatment of cardiac cases. These procedures include treatments by baths, rest, active and passive exercises, Schott movements, massage and electrical applications. A useful chapter is devoted to diet, in which not only are the main principles of the treatment by diet discussed, but also the mode of preparing some of the articles described in detail. Throughout the book stress is laid on the type of case likely to derive benefit from any given line of treatment, while the help which may also be obtained by drugs receives due prominence in the last chapter. Here we are surprised to read that the author recommends the smoking of opium under certain circumstances, a therapeutic method it might be dangerous to introduce.

A Synopsis of Surgery. By ERNEST W. HEY GROVES, M.D., M.S., B.Sc. Lond., F.R.C.S. Eng. Pp. viii., 486. Bristol: John Wright & Sons Ltd. 1908.—This epitome of the salient facts in surgical practice may be looked upon as a concentrated extract of surgery for hasty reference and revision. It needs, however, to be diluted largely before it can be digested or assimilated. The matter is arranged in forty-nine chapters, somewhat after the system of "Rose and Carless;" the headings, type and indented margins conduce to easy reference, for which the book is intended; it appears to be very carefully compiled, and forms a handy companion for the student and busy practitioner who has little time for anything but concentrated pabulum. The work has been done by a master of his subject, and is thoroughly reliable.

Editorial Notes.

University College, Bristol, Faculty of Medicine.

THE annual distribution of prizes took place on October 1st, again under the chairmanship of the Right Hon. Lewis Fry, the distribution being made by Sir Rubert Boyce, F.R.S., Holt Professor of Pathology in the University of Liverpool, who gave an address on the subject of University extension. He pointed out the leading part which the medical schools of this country had taken in the modern Universities, and he remarked that "it should be borne in mind that there was no city of the Empire which showed a longer or a worthier list of men of culture than Bristol. It was not to be wondered at that medical schools, no matter how modest in size, should have early seized the opportunity, when it came, of extending their sphere and reaching out a helping hand to colleagues organising and desirous of founding schools in other departments of thought. By this coalition of teaching forces there grew up in this country those institutions well known as University Colleges, which paved the way for the new Universities. This union proved of the greatest value to both sides; the views of both were broadened and stimulated, and this soon made itself felt throughout the country by the growing desire of the teachers in these colleges to attract the best men to their faculties and to beg money to endow and build laboratories for the better accommodation of students and teachers. And let it be said to their lasting credit and honour that nearly all of these colleges saw clearly that the most successful way to attain their object was to convert their colleges into Universities, the logical and natural conclusion to their long period of evolution. Thus it was that in the last ten years they had been privileged to witness a remarkable recrudescence of University learning in this country. Indeed, the twentieth century would be famous for the foundation of Universities in England, Ireland, Wales, and the Colonies, the like of which had no parallel in any other country, and which surely showed

that public feeling had been thoroughly roused, and that the importance of University training for the public good was appreciated to the full by all classes of society. He proceeded to mention a few directions in which they might radiate out and take root with much profit to their faculty, and with great good to the public. A cancer investigation department, schools of research for the scientific co-ordinated study of epilepsy and lunacy, the same for the study of the simple infectious diseases, like scarlet fever, measles, &c. ; a special school of research for the study and advancement of their knowledge of tropical diseases, for which they in Bristol were eminently well placed, and towards which they had many of the necessary qualifications. Hygiene offered them many more fields. Let them also establish a school of economic entomology. The growth of this new science was marvellous. It embraced all those pests which bit and infected man and animals—flies, fleas, ticks, bugs, and parasites generally. It was indeed a practical study. Then, with the establishment of these divisions, together with their professors of botany, zoology, physiology, and chemistry, they would find that the next great natural and logical step would be to create a great school of veterinary medicine in the South-West of England, as well as a great agricultural school, these two working hand in hand. No one could say these were not sound, practical, and legitimate aspirations. There were many more—let them not forget their friends, the pharmacists ; organise them and create a good school. Gentlemen of the Bristol School of Medicine had a sumptuous harvest in front of them—let them muster their labourers and reap it.

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International Congress on Tuberculosis, Washington, 1908.

THE war against tuberculosis will have derived great strength from this Congress. Nothing before has been more popular and more universally accepted by all the peoples of the earth—physicians, laymen, of all varieties, philanthropists, and legislators of America, Europe, Africa, India, China and Japan, all united in a common cause to suppress a

disease which has threatened to exterminate the human race. It is well known how great the mortality has been, but Professor Irving Fisher's estimates were a revelation to the world when he stated that consumption kills 138,000 in America yearly, and costs the nation two hundred million pounds, and further that the long drawn-out illness of most cases may be estimated to cost some eighty-eight millions a year besides. It is not so commonly known that the history of the coloured races in America shows that at the present rate certain tribes of negroes, with Sioux and other Indians, will soon be extinct. So also is it with the Irish race in America, which are almost as liable to consumption as the negro.

In the State of New York it is estimated that the loss, not only by deaths but by protracted sickness, amounts to some fifteen millions of dollars, as consumption accounts for every third death during the working period of life, and every other workman who becomes incapacitated, the loss by sickness being four times greater than by death.

The seriousness of this combat is shown by the awakening of general interest in the subject. The physicians of America have shown an enthusiasm which fully rivals that of their foreign guests at this Congress, and the resolutions adopted at this great meeting may be taken seriously, and not as recommendations due to the preaching of excited faddists.

The reduction of mortality which is now manifest may be claimed to be the result of modern hygienic methods, *e.g.* in Germany Professor Koch claims that the mortality has been reduced one-half during the last three decades, giving a gain of 30,000 lives to the State.

The veteran Dr. Trudeau rejoiced that the times have changed. He stated that for thirty-five years he had struggled against darkness and indifference, but that the true light shineth now. It is admitted that the life, habits and environment of the individual are all essential, that mere climate counts for little in the contest, that without hygiene climate is as sounding brass or a tinkling cymbal (Solly). It is also generally admitted that although it is impossible as yet to extirpate all tubercle bacilli,

yet it is possible to so strengthen and harden the body that the absorbed germs cannot take hold upon it. Recovery, however, is at best difficult and too often doubtful. Prevention is a more thankful task.

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Report of British Committee, Washington.

THE official report of the Executive Committee for Great Britain and Ireland—giving an account of certain of the more important steps taken in this country with the object of accelerating the decline in the death-rate from pulmonary tuberculosis, which has been in progress during the last fifty years—contains much material for study and reflection.

It has been drawn up and signed by Dr. C. Theodore Williams, Dr. H. Timbrell Bulstrode, and Dr. I. Walker Hall, who give an authentic and complete account of what is being done in this country towards the specific control of tuberculosis.

It is pointed out that the system of voluntary notification has not been altogether a success, and that even where compulsory notification has been tried it has not materially aided us in obtaining really early cases of the disease. There seems to be no question that, in so far as the patients are concerned, the detection of early cases is the greatest use to which notification can be applied. It seems to be too early to expect that any direct measures which have been taken as a consequence of notification should have already resulted in any appreciably added decline in the death-rate of the places in which such measures have been taken.

As regards the provision of sanatoria by public health authorities, the city of Bristol has taken quite a leading part in securing twenty beds at the Winsley Sanatorium. Contributions in varying degrees are made to this sanatorium by the sanitary authorities of Bath, Taunton, Swindon, and other towns, as also by certain rural district councils.

It is of interest to note that more recently the city of Birmingham has been the first municipal authority in this country to provide for its consumptive sick a separate institution, on Leckhampton Hill, near Cheltenham. It is suggested that a

statue to Bodington might well be erected there in recognition of his inauguration near to Birmingham, some sixty years ago, of the first sanatorium in the world.

It has been universally found that the difficulties of securing early cases by existing methods are very great, more especially among the working classes, and schemes have been suggested for the searching out of early cases in the homes of the people through the agency of medical officers of health, lady almoners, district visitors, &c. ; and when no hospital for the selection of cases exists, the best results are likely to accrue when the medical superintendent of the sanatorium, by visiting certain centres in his district at definite dates, is himself made responsible for such cases as he admits. Where medical referees exist, it would be understood that the function of such referees extends only to the recommendation for examination by the medical superintendent at the local centres. This would be the most satisfactory safeguard if it were possible ; but it would necessitate the frequent absence of the medical superintendent from his sanatorium, where his daily and constant presence is essential, and in the case of a large district like the three counties from which the Winsley Sanatorium receives its patients, the previous examination of the patient by the sanatorium medical officer is not possible.

It is now generally admitted that the use of tuberculin is a valuable aid to other therapeutic measures, and that a small proportion of patients in sanatoria who are not progressing by ordinary hygienic means should adopt this method. Of late the eslection of cases, as well as the dosage and times of injection, have been based upon the systematic determinations of the opsonic index. Patients whose indices show wide and rapid oscillations are not considered suitable for tuberculin treatment. Those who possess a persistently high-level index are in a condition of opsonic power which cannot be raised, and the risk of inducing a negative phase should not be incurred. It is the patient with the constant low index, therefore, whose chances of improvement are the greatest. It is, however, even yet premature to give definite statements as to the precise value of tuberculin in the treatment of pulmonary forms of tuberculosis.

Many other questions are surveyed in this report, such as the relation between human and bovine tuberculosis, the feeding experiments with tubercle bacilli, and the machinery for the control of tuberculous milk and meat. The English Committee has been fortunate in having entrusted their report to the authors whose names and whose work are beyond criticism and laudation.

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Resolutions adopted at Washington.

FROM the full reports of the mighty gathering at Washington which have been given in the journals, we may assume that, successful as it was in the opening days, the éclat with which it concluded was due to the preseuce of the President, Theodore Roosevelt, who felt that no gathering could take place fraught with greater hope for the welfare of the people at large than this one. The following resolutions were passed by the Congress :—

RESOLVED—

That the attention of States and control Governments be called to the importance of proper laws for the obligatory notification by medical attendants to the proper health authorities of all cases of tuberculosis coming to their notice, and for the registration of such cases, in order to enable the health authorities to put in operation adequate measures for the prevention of the disease.

That the utmost efforts should be continued in the struggle against tuberculosis, to prevent the conveyance from man to man of tuberculous infection as the most important source of the disease.

That preventive measures be continued against bovine tuberculosis, and that the possibility of the propagation of this to man be recognised.

That we urge upon the public and upon all Governments the establishment of hospitals for the treatment of advanced cases of tuberculosis, the establishment of sanatoria for curable cases, and the establishment of dispensaries and day and night camps for ambulant cases of tuberculosis which cannot enter hospitals and sanatoria.

That this Congress endorses such well-considered legislation for the regulation of factories and workshops, the abolition of premature and injurious labour of women and children, and the securing of sanitary dwellings as will increase the resisting power of the community to tuberculosis and other diseases.

That instruction in personal and school hygiene should be given in all schools for the professional training of teachers.

That whenever possible such instruction in elementary hygiene should be entrusted to properly qualified medical instructors.

That colleges and universities should be urged to establish courses in hygiene and sanitation, and also to include these subjects among their entrance requirements, in order to stimulate useful elementary instruction in the lower schools.

That this Congress endorses and recommends the establishment of playgrounds as an important means of preventing tuberculosis through their influence upon health and resistance to disease.

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Human and Bovine Tuberculosis.

THIS matter was discussed at a joint session of the sections on bacteriology and pathology at Washington. Dr Robert Koch reviewed the position he had adopted at the British Congress in 1901, and stated that he had never held that the human and bovine tubercle bacilli were two distinct species, but only stated that they differed from one another in certain characteristics, which were of the greatest importance in combating tuberculosis. All competent investigators now agreed that the tubercle bacilli of human origin and those of cattle differed. Dr. Koch pointed out these differences, and said that to his knowledge the bacilli of the human type had never been demonstrated in cattle, but the bacilli of the bovine type could occur in man. With few exceptions, however, these bacilli were but slightly virulent for man and remained localised. In no case of pulmonary tuberculosis had the tubercle bacillus of the bovine type been demonstrated. If further investigation should confirm this position, it is clear that we must direct our regulations for combating tuberculosis primarily against the tubercle bacilli of the human type. And yet, on the other hand, it has been shown by Dr. Nathan Raw that in the treatment of human infections, such as pulmonary tuberculosis, a tuberculin prepared from bovine sources is much more efficient than Koch's Tuberculin R, or the new tuberculin.

Bristol General Hospital.

A RECENT alteration of rules, which regulates the constitution of the staff of this hospital, is worthy of passing notice. The addition of the word "Skiagraphist" has been made, and accordingly the holder of the office now becomes a member of the "Honorary Staff." We congratulate Mr. John Ellington Jones on the fact that his work is being so fully appreciated, and that he himself now takes that position which he and his office so fully deserve.

Notes on Preparations for the Sick.

Sauerin Tablets.—ALLEN AND HANBURYS, London.—These are a culture of vigorous strains of the bacillus acidi lactici, in tablet form, for internal use, or for the production of sour or curdled milk.

The researches of Metchnikoff and other observers have shown that an active strain of the lactic acid-producing bacterium, taken with a suitable medium for its multiplication—such as milk or sugary substances—passes through the stomach and establishes itself in the large intestine, where, by the production of lactic acid, it inhibits the growth of the Bacillus coli communis and other intestinal bacteria.

Attention has therefore been directed to the use of these organisms in pure culture, in disorders arising from absorption of toxins, and as a general intestinal disinfectant.

One or two tablets should be taken three or four times daily after meals.

Lactéol Tablets.—ROBERTS & Co., London.—These are said to be a most efficacious means of administrating lactic acid bacilli. They are prepared by a process which ensures the continued vitality of the bacilli, they are tasteless, and have no putrefactive odour.

When decomposing matter is inoculated with lactic ferments the putrefactive process is arrested, and the place of the putrefactive organisms is taken by the lactic bacilli. This is the way lactéol acts in the intestine where the pathogenic bacteria are gradually replaced by lactic bacilli and normal intestinal organisms.

In various intestinal conditions, where intestinal antisepsis is desired, it is stated that three to five tablets daily, dissolved in a little boiled or sweetened water, give good results.

Lacto-Bacteria Tablets.—STAUFFER, 12, 13 Cullum Street, London, E.C.—These tablets, containing 30 centigrammes each, have been manufactured from the constituents of milk by pure cultures of lactic acid ferments. They are believed to prevent or moderate the putrefactive fermentation in the bowels, and are said to give much better results than the ordinary antiseptic drugs used for this purpose. They are almost tasteless, and may either be swallowed like a pill, or first masticated, or they may be dissolved in milk. The usual dose is three to four in the day to be taken after meals.

Junket Tablets.—CHR. HANSEN, Copenhagen; 77 St. Thomas Street, London, S.E.—We have found these tablets very efficacious for the production of junket, and hence they are being found useful wherever a milk food is desirable, particularly in chronic kidney troubles. They contain nothing but the pure rennet ferment from the stomach of the calf.

Sterilla Soap.—MATTHEWS, Clifton.—We have made further experiments with Sterilla, a trade name given to a liquid soap produced locally. It deserves mention, perhaps, because it is a solution of potash soap in one of the naphthol series, and therefore costs less to produce than the ordinary alcohol-ether soap (*vide* page 284).

We have made some experiments to determine whether it satisfactorily replaces the alcohol-ether soap. It does so, and is much more economical than the alcohol solution. As far as laboratory tests go, a solution of Sterilla, 1 in 20, is equal to 1 in 20 carbolic acid solution, so that it has some antiseptic properties also. But it must be remembered that no mere washing with soap is sufficient to completely sterilise skin. While Sterilla soap kills laboratory strains of diphtheria and typhoid bacilli when these organisms are placed under the nails and the parts are scrubbed well, it does not remove the staphylococcus epidermidis albus; neither does biniodide of mercury soap, for the matter of that, although it partially removes the skin organisms, and thus is more efficient. But biniodide soap cannot be entirely depended upon; the cocci are never entirely killed. Subsequent immersion in disinfectant solution is necessary.

The undiluted Sterilla solution is less effective than the 1 in 20. It is advisable to employ a 1 in 10 solution whenever organic material is to be disinfected, and to regard the soap as an excellent preparer of the skin for final immersion in a standard solution of sterilla, or preferably of another disinfectant. The simple washing with Sterilla, in our experiments, did not replace the immersion in some antiseptic solution. It leaves the skin in a better

condition than does the biniodide, and is of course more useful for the disinfecting of instruments.

The 1 in 10 solution, placed on mirrors and instruments, killed diphtheria and cocci in one minute.

Casona : A new form of Cheese.—SEVERN VALLEY DAIRY PRODUCTS CO., Stonehouse, Glos.—Cheese as a food has become of late years quite an important part of the dietetic programme of the supposed invalid. Haig's uric acid theories, the modern views on purin bodies, and the necessity of finding varieties of suitable food for the diabetic, has given a great impetus to the production and use of dairy products of various kinds. One of the latest of these is that which has been designed, with the assistance of Dr. Francis T. Bond, more especially for the diabetic. Several varieties are made: cream, plain, anchovy, savoury, piquant, and celery.

They should be a valuable addition to the dietary of those who like the last new thing, or those who are obliged to refrain from the old and familiar methods of feeding which have long been in vogue, but do not suit all patients alike.

Ceridin : The Active Principles of Yeast (*vide* page 285).—BOEHRINGER & SOEHNE, Mannheim.—We find that the Ceridin tablets are for children only: for adults the drug is put up in the form of pills containing 1.5 grs. of Ceridin. Further reports of a favourable character have been received. It has been found to cut short attacks of furunculosis and acne, and is also of use by regulating the action of the bowels in milder forms of constipation.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in September.

November 30th, 1908.

J. W. Ballantyne, M.D. (1)	1 volume.
J. Michell Clarke, M.D. (2)	3 volumes.
F. R. Cross, M.B. (3)	5 ,,
F. H. Edgeworth, M.D. (4)	5 ,,
A. A. Lendon, M.D. (5)	1 volume.
The Middlesex Hospital (6)	2 volumes.
R. Shingleton Smith (7)	5 ,,
W. Roger Williams (8)	1 volume.

SEVENTIETH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund, or received through the *Journal*.

Allbutt and H. D. Rolleston, Sir C. [Eds.] *A System of Medicine.* Vol. IV. Pts. 1, 2 1908

Allen, R. W. .. *Vaccine Therapy* .. .. 2nd Ed. 1908

Baily, P. J. .. .. *The Care and Nursing of the Insane* .. .. [1908]

Ball, Sir C. B. .. *The Rectum, its Diseases and Developmental Defects* 1908

Ballantyne, J. W. *The "Byrth of Mankynde:" its Author, Editions, and Contents* .. .. (1) 1907

Ballet, G. .. .. *Neurasthenia.* (Tr. from 3rd Edition by P. C. Smith) 1908

Barnett, H. N. .. *Legal Responsibility of the Drunkard* 1908

Brown, W. L. .. *Physiological Principles in Treatment* 1908

Clark, D. N. Paton and G. H. *Practical Course of General Physiology* 1908

Cooper, A. .. .. *The Sexual Disabilities of Man* 1908

Dingwall-Fordyce, A. *Diet in Infancy* 1908

Emery, W. d'E. .. *Clinical Bacteriology and Hæmatology* 3rd Ed. 1908

Encyclopedia and Dictionary of Medicine and Surgery, Green's Vol. IX. [1908]

Erb, W. .. .. *Handbook of Electro-Therapeutics.* (Tr. by L. Putzel) .. .. (7) 1883

Goodall and J. W. Washbourn, E. W. *A Manual of Infectious Diseases* .. .. 2nd Ed. 1908

Gresswell, D. A. .. *Natural History of Scarlatina* .. .. (7) 1890

Groves, E. W. H. *A Synopsis of Surgery* 1908

Heine, B. .. .. *Operations on the Ear.* (Tr. and Ed. from 2nd German Edition by W. L. Murphy) .. 1908

Insane, Handbook for Attendants on the .. .. 5th Ed. 1908

James, J. B... .. *Death and its Verification* 1908

Kelynack, T. N. [Ed.] *Tuberculosis in Infancy and Childhood* .. 1908

Latimer, J. .. .. *Sixteenth-Century Bristol* 1908

Lendon, A. A. .. *Nodal Fever* .. .. (5) 1905

Luke, T. D. .. .. *Natural Therapy* 1908

MacIlwaine, S. W. *The Future of Medicine* 1908

Mackenzie, J. .. *Diseases of the Heart* 1908

Martindale and W. W. Westcott, W. H. *The Extra Pharmacopœia* 13th Ed. 1908

Mayou, M. S. .. *Diseases of the Eye* 1908

Morris, Sir M. .. *Diseases of the Skin* .. ..[4th Ed.] 1908

Murphy, D'A. Power and J. K. [Eds.] *A System of Syphilis* Vol. II. 1908

Oliver, T. .. .. *Diseases of Occupations* .. .. [1907]

Osler, W. .. .. *Lectures on the Diagnosis of Abdominal Tumours* .. .. (7) 1894

Parsons, J. H. .. *The Pathology of the Eye.* Vols. I.—III. 1904-07

Paton and G. H. Clark, D. N. *Practical Course of General Physiology* 1908

Power and J. K. Murphy, D'A. [Eds.] *A System of Syphilis.* Vol. II. 1908
Proctor, B. S. .. *Manual of Pharmaceutical Testing* .. (4) 1890
Probyn-Williams, R. J. *A Practical Guide to the Administration of Anæsthetics* .. .. (4) 1901
Quain's Elements of Anatomy. Vol. III. .. .. .. 11th Ed. 1908
Rawling, L. B. .. *Landmarks and Surface Markings* 3rd Ed. 1908
Rolleston, Sir C. Allbutt and H. D. [Eds.] *A System of Medicine* Vol. IV. Pts. 1, 2 1908
Russell, R. .. .. *Strength and Diet* .. .. (7) 1905
Sutherland, G. A. [Ed.] *A System of Diet and Dietetics* 1908
Swayne, J. G. .. *Obstetric Aphorisms* .. .. .. (4) 8th Ed. 1884
Tredgold, A. F. .. *Mental Deficiency* 1908
Vale, F. P. .. .. *Has Surgical Treatment lessened the Mortality from Appendicitis?* 1908
Walker, J. W. T. .. *Estimation of the Renal Function in Urinary Surgery* 1908
Washbourn, E. W. Goodall and J. W. *A Manual of Infectious Diseases* .. .. 2nd Ed. 1908
Westcott, W. H. Martindale and W. W. *The Extra Pharmacopœia* 13th Ed. 1908
White, W. H. .. *Common Affections of the Liver* 1908
Wiggins, W. D. .. *Midwifery for Midwives* 1904
Williams, W. R. .. *The Natural History of Cancer* .. .. (8) 1908

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Journal of Obstetrics, The .. .. Vol. LVII. 1908
American Laryngological Association, Transactions of the 1908
Annales d'Oculistique .. .. (3) Tom. XCIII., XCIV. 1885
Archives d'Ophtalmologie .. .. .. (3) Tom. IX.—XII. 1889–92
Archives of the Middlesex Hospital .. (6) Vols. XII., XIII. 1908
Boston Medical and Surgical Journal, The .. .. .. Vol. CLVIII. 1908
Brain .. .. (4) Vols. IX., 1887, XI. 1889
British Journal of Tuberculosis, The .. .. Vol. I. 1907
Echo médical du Nord, L' 1906
Edinburgh Obstetrical Society, Transactions of the Vols. XXXI.—XXXIII. 1906-08
Hospital, The .. .. Vol. XLIII. 1908
Journal of Medical Research, The .. .. Vol. XVIII. 1908
Journal of Obstetrics and Gynæcology, The .. .. .. Vol. XIII. 1908
Journal of Physiology, The .. .. .. (2) Vols. XVI.—XVIII. 1894-95
Journal of the American Medical Association, The .. Vol. L. 1908
Library World, The .. .. Vol. X. 1908
"Medical Review," Index to Vols. I.—X. 1908
Philippine Journal of Science, The .. .. Vol. II. 1907
Progressive Medicine .. .. Vol. III. 1908
Revue hebdomadaire de Laryngologie .. Tom. XXVIII., Vol. I. 1908
Royal Society of Medicine, Proceedings of the .. Vol. I., 3 parts 1908
Univ. of Penna. Medical Bulletin .. .. Vol. XX. 1908

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

Annual Meeting, October 14th, 1908.

After a vote of thanks to the retiring President, Dr. Henry Waldo, had been passed, Dr. Michell Clarke took the chair and gave an introductory address (see p. 289). Later a cordial vote of thanks was given to Dr. Clarke for his able and interesting address.

The Honorary Secretary, Dr. J. A. Nixon, read his annual report. The balance in hand was £94 4s. 2d. The Society had lost one member through death, and seven members had resigned. Eleven new members had been elected. Mr. H. F. Mole had resigned the Secretaryship, to the great regret of the members of the Society. The session had been marked by the inauguration of a system by which the circulation of the books in the library among the members was permitted. The constitution of the Committee of the Society had been altered, and would in future consist of four past-presidents, and a greater number of elected members than previously.

The Editorial Secretary of the *Journal*, Mr. James Taylor, read his annual report.

Mr. C. K. Rudge, the Hon. Librarian, read the following report of the Library Committee of the Bristol Medico-Chirurgical Society, for the year ending Sept. 30th, 1908:—

The Library of the Bristol Medico-Chirurgical Society now consists, including duplicates, of 11,002 volumes. 283 volumes have been added during the year (of these 119 volumes were sent to the *Journal* for review), and 196 volumes have been sold. The Library is now in regular receipt of 187 periodicals.

The Bristol Medical Library, to which members of the Society have access, consists of 21,253 volumes, and it is in regular receipt of 244 current periodicals. These are contributed by the constituent libraries in the following manner:

BOOKS.

Bristol Medico-Chirurgical Society	11,002
Faculty of Medicine, University College	8,445
Bristol Royal Infirmary	1,192
Bristol General Hospital	614
Total	21,253

PERIODICALS.

Medico-Chirurgical Society	187
Faculty of Medicine	57
Total	244

The past year marks an eventful epoch in the history of the Library, for during this period several important changes have been effected in the constitution and management, which, it is hoped, will increase its efficiency and usefulness, and also add largely to the Society's roll of members. The Committee, while fully recognising the value and importance of a reference library, and after studying the conditions existing in twenty of the medical libraries in Great Britain which all allow their books to circulate among the members, have arranged that our members may borrow books under certain restrictions, without any increase in their annual subscription.

To meet the requirements of members who wish to borrow the most recent books as soon as they are published, the Society has become a subscriber to Lewis's Library.

The Committee have now under their consideration a scheme for establishing an "Association of British Medical Libraries," one function of which will be to supply the Libraries incorporated in the Association with the most recent periodicals, British and foreign, dealing with the various departments of medical science.

The announcement of the resignation of Mr. James Taylor of the office of Editorial Secretary of the *Journal*, after ten years' service, was heard with much regret. Dr. James Swain was chosen as President-elect, and four members of the Society were elected to serve on the Committee.

The following are the officers for the Session 1908–9: President—J. Michell Clarke, M.A., M.D. Cantab. President-elect—J. Swain, M.D., M.S. Lond. Committee (*Ex officio*)—H. Waldo, M.D. Aberd. (retiring President); R. Shingleton Smith, M.D.Lond. (Editor of *Journal*); J. A. Nixon (Editorial Secretary); C. K. Rudge, M.R.C.S. (Hon. Librarian). (*Elected*)—J. P. Bush, C.M.G. (Ex-President); J. Taylor, M.R.C.S. (Ex-President); B. M. H. Rogers, M.D.Oxon.; P. Watson Williams, M D.Lond.; G. Parker, M.D.Cantab.; I. Walker Hall, M.D.Vict.; F. Lace, F.R.C.S.; J. Lacy Firth, M.D., M.S.Lond. Hon. Secretary—J. A. Nixon, M.B.Cantab.

LAWS OF THE BRISTOL MEDICO-CHIRURGICAL SOCIETY.

1.—The Society shall be called "THE BRISTOL MEDICO-CHIRURGICAL SOCIETY."

2.—The Society shall consist of—

(*a*) A President, President-elect, retiring President, Honorary Secretary, Honorary Librarian, the Editor and the Editorial Secretary of *The Bristol Medico-Chirurgical Journal* who, *ex-officio*, together with eight elected members

shall form the Committee. Of the eight elected members two only shall be Past Presidents.

(*b*) Honorary Members not exceeding ten in number.
(*c*) Corresponding Members.
(*d*) Ordinary Members.

3.—The Officers and Committee shall be elected annually, by ballot if demanded, the President and President-elect not being eligible for election to the same office two years in succession.

4.—Any registered Medical Practitioner desirous of entering the Society shall be proposed and seconded by Members at one meeting, and shall be voted for by show of hands at the following meeting, one adverse vote in five to exclude. The name, residence and professional qualifications of any Candidate for Membership, together with the names of the proposer and seconder, shall be announced in the notice convening the meeting at which the election is to take place.

5.—If the conduct of any Member be deemed prejudicial to the welfare of the Society, on notice signed by not less than ten Members being given to the Secretary, the matter may be brought under the consideration of the Society ; and if on a show of hands it be so voted by a majority of two-thirds of the Members present, that Member shall be expelled.

6.—A Meeting shall be held on the second Wednesday in each month, from October to May, inclusive, when the chair shall be taken at 8 p.m. If patients are to be shown, the Honorary Secretary shall summon Members for 7.45 p.m., or such earlier hour as he may deem necessary. The meeting in October shall be the *Annual Meeting*, at which the election of Officers and Committee shall take place.

7.—The subscription to the Society shall be One Guinea per annum, payable in advance ; this sum shall include the subscription to the *Journal* and the use of the Library, with the privileges appertaining to the circulation of Library books.

8.—Any Member may introduce a Visitor, with the permission of the President.

9.—The following shall be the order of business :—

(*a*) The minutes of the preceding meeting to be read and confirmed.
(*b*) New Members to be voted for.
(*c*) Any candidates for membership to be proposed and seconded.
(*d*) Any miscellaneous business permitted by the President.
(*e*) Remarks upon patients shown.
(*f*) Remarks upon specimens exhibited.
(*g*) Papers to be read and discussed.

10.—The President shall have unlimited authority on all points of order, and in addition to his vote as Member, be entitled to a casting vote.

11.—The Secretary shall give notice of Meeting to all the Members; shall keep an accurate record of the proceedings of the Society and of the Committee in the books kept for the purpose; shall receive subscriptions, and pay all debts incurred by the Society; and shall furnish a report of the proceedings and of the financial position of the Society at each Annual Meeting.

12.—The Committee shall assemble for business as often as any special matter may require it — seven Members constituting a quorum. They shall have the control of all the funds of the Society, and they shall make such regulations as the welfare of the Society may demand.

13.—The Society shall publish a Journal called *The Bristol Medico-Chirurgical Journal*, directed by an Editorial Staff, the Officers and Members of which shall be appointed annually by the Committee of the Society.

14.—The Society shall maintain a Library called "The Library of the Bristol Medico-Chirurgical Society," and shall appoint three of its members, in addition to the President and Honorary Secretary, who shall represent the Society upon the Committee of the Bristol Medical Library, and be responsible for the books and other property appertaining to the Library and Reading Rooms of the Society.

15.—Two Auditors shall be appointed at the Meeting of the Society in May, in order that the accounts may be audited before the Annual Meeting.

16.—The Laws of the Society shall be printed, and a copy sent to each Member. No alteration in any Law shall be made until it has been notified in the circular convening a Meeting, carried at that Meeting, and confirmed at the succeeding Meeting.

H. WALDO, *President.*
J. A. NIXON, *Secretary.*

BRISTOL MEDICAL LIBRARY.

By-Laws for Borrowing Books.

(*a*) Every Member shall be entitled to borrow books from the Library, and may have three volumes or periodicals in his possession at one time, one of which may be from Lewis's Library.

(*b*) The Member shall give a receipt to the Librarian for each volume so borrowed, and shall be responsible for any damage done to it while in his possession, and shall replace it if lost; he shall

also discharge the cost of carriage on any books sent out by carrier or post.

(*c*) A Member shall not retain a volume for a longer period than 14 days; for detention beyond this period a fine of 3d. per day will be charged on each volume, and he shall not be entitled to borrow another book until the fine is paid.

(*d*) Current periodicals may only be taken out from Saturday noon till 10 a.m. on the following Monday.

(*e*) The following books are for reference only:—

Old and rare volumes.
Dictionaries (language and medical).
Encyclopædias.
Allbutt's *System of Medicine*, and similar systems.
Any student's text-book, which is not a duplicate.
Large atlases and plates.

C. KING RUDGE,
Hon. Librarian.

RECEIPT AND EXPENDITURE ACCOUNT OF THE BRISTOL MEDICO-CHIRURGICAL SOCIETY, SESSION 1907-8.

	£	s.	d.	1907.	£	s.	d.
Carried forward from 1906–7	120	18	7	Oct. 13.—Stamps ..	1	0	0
Members' Subscriptions, 1907–8	136	10	0	Nov. 11.—Mr. Farr, Grant	5	5	0
Interest on Deposit Notes	3	15	7	,, 11.—Stamps ..	1	0	0
				1908.			
				Feb. 24.—Stamps ..	1	5	0
				Sept. 2.—Stamps.. ..	1	5	0
				Sept. 12.—Grant to Library	50	0	0
				,, 26.—To *Journal* ..	41	0	0
				,, 28.—Sundries ..	3	7	9
				,, 28.—For use of rooms, telephone, &c.	57	6	0
				,, 29.—Printing ..	5	1	0
				Balance..	94	14	5
	£261	4	2		£261	4	2

November 11th.

Dr. MICHELL CLARKE, President, in the Chair.

Dr. E. C. WILLIAMS showed a child, aged 2 years, who had recently recovered from **Basic Meningitis with temporary Amaurosis.** During the course of the disease there had been complete loss of sensibility to light without any visible change in the ophthalmoscopic appearances. The case had markedly benefited from small doses of liquor morphinæ, administered regularly.

Recovery had left the child unable to walk or talk, but the vision was apparently good. He regarded the case as an example of that form of posterior basic meningitis during the course of which the child appears to lose its sight without any discoverable ophthalmoscopic change. The children at a later date often regain both their sight and health. They are usually below two years of age.—Mr. MOLE, in discussing the case, suggested that possibly the child was deaf as the result of the meningitis, and hence was unable to regain the lost art of speech.—Dr. BERTRAM ROGERS said that his experience did not agree with that of Hutchison (previously cited), that about half the cases of posterior basic meningitis make a more or less complete recovery.—Mr. CYRIL WALKER suggested that the amaurosis was due possibly to a retro-ocular neuritis; the loss of pupil reflex to light pointed to this conclusion.—Dr. EDGEWORTH referred to the treatment of this disease by serum, which had reduced the mortality in the Belfast epidemic 30 per cent., questioning whether the same serum would prove efficacious in the sporadic cases. The meningococcus in the two varieties, although morphologically and culturally identical, gave different agglutination and opsonic reactions, so that it was probable that the serum of the epidemic variety would fail with the sporadic. He had seen in three or four cases very good results from the morphia treatment advocated by Barr.—Prof. WALKER HALL thought that, admirable as Flexner's serum had proved in some epidemics, the correct plan to follow was that of preparing a serum from individual cases or epidemics wherever practicable.

Dr. WATSON WILLIAMS showed a patient upon whom he had operated for **Suppuration in the Frontal Sinus** by his osteoplastic flap method. The result had been excellent, not only from the point of view of relieving the symptoms, but also as regards the cosmetic effect, the scar being barely visible.—Mr. LACY FIRTH agreed that the operation was a very good one; he had found that it gave excellent access to the ethmoidal region, and left no disfigurement, except an almost invisible scar.

Mr. JAMES TAYLOR read a paper on **Some Fallacies in Skiagrams,** which he illustrated by actual mistakes, showing how a fracture might escape notice completely if photographed in a single plane. Tuberculous masses in the kidney simulating calculi and other examples were shown.—Dr. JAMES SWAIN insisted on the importance of such facts being published from the medico-legal aspect: he said that frequently the result of treatment of a fracture looked bad in a skiagram, while clinically no inconvenience was experienced.—Dr. WATSON WILLIAMS emphasised the value of stereoscopic skiagrams, which cleared up many difficulties.—Dr. BOWKER spoke of the misleading appearance of exostoses in some cases of suspected injury.—

Mr. HEY GROVES, referring to the transparency of callus, said that the patients might, by seeing a skiagram, be led to suppose that there was no union between the ends of a fractured bone.—Mr. A. L. FLEMMING said that during the South African War he had come to realise the value of stereoscopic skiagrams.

Dr. H. L. ORMEROD read notes of a case of a **Double Monster.** A full-time birth in a *primipara*, aged 25; the two embryos were joined by a broad isthmus from manubrium sterni to umbilicus (thoracopagus); their total weight was 11¾ lbs., sex female. When he arrived the mother had been in labour eighteen hours, the waters had broken one hour previously, the pains were vigorous, and the abdomen was unduly prominent. The cervix was well dilated, and the presentation was a third vertex: progress had come to a standstill. The head was delivered with forceps, but the body would not follow; vaginal examination revealed some abnormal prominence over the chest. Without other assistance than that of the midwife, he succeeded in bringing down the arms, and subsequently the legs and breech: he then found there was a second foetus attached. He brought down the legs of the second child, and had little difficulty in delivering the body and after-coming head. The monster died during delivery. The mother made an uninterrupted recovery, the perineum even having escaped laceration.

Dr. T. M. CARTER read notes of a case of **Rupture of Cerebral Aneurism in a girl aged 16** (*vide* p. 322). The early symptoms simulated hysteria, death occurred in a few hours preceded by absolute coma. The autopsy revealed an extensive hemorrhage at the base of the brain.—Mr. MUNRO SMITH said that he had seen the patient in the earlier stages of her fatal seizure, and had been misled into regarding the symptoms as hysterical.—Dr. CHARLES had seen her after she had become comatose, and was led to diagnose cerebral hemorrhage from the ophthalmoscopic appearances, which revealed a very early stage of optic neuritis. He mentioned another case which he had seen where a similar condition was responsible for sudden death.—Professor WALKER HALL described the *post-mortem* findings, and showed direct colour photographs of microscopic sections from the dilated vessel which had burst. He was unable to say whether the vessel was an artery or vein. Apart from this lesion, there was general hypoplasia of the cardio-vascular system, and an abnormal fluidity of the blood which had only clotted round the ruptured vessel, but in no other part of the body.—Dr. EDGEWORTH said that whilst pathologist at the Royal Infirmary he had met with several cases of basal hemorrhage in young adults, in which, after careful examination, the source of hemorrhage could not be found.—Dr. ALEXANDER inquired whether there was any reason for supposing that Arthur Hallam's untimely death from a "determination of blood to the brain" was an instance of

this condition.—The PRESIDENT remarked that the mistake of at first confounding such a case with hysteria would undoubtedly be made again. He asked whether there was any communication between the auricles or ventricles associated with the cardiac hypoplasia; also whether there was any *ante-mortem* clot which could have been dislodged and given rise to aneurism in the brain. The answer was in the negative to both these questions.

Eighteen candidates were proposed and elected members of the Society.

J LACY FIRTH.

J. A. NIXON, *Hon. Sec.*

Obituary Notices.

EMILY ELIZABETH EBERLE, M.A., M.B., B.CH., B.A.O., F.R.C.S.

DR. EMILY EBERLE died on September 12th at Dublin. She had undergone a severe abdominal operation fifteen days previously, and appeared to be recovering with unusual rapidity, when symptoms of tetanus set in on the thirteenth day and quickly proved fatal.

Emily Eberle was the daughter of a Moravian minister of Dublin, and was educated up to the age of fifteen years at Fulneck, Yorkshire, a school founded for the children of Moravians. On the death of her father in 1876 she returned to Dublin, and attended the Alexandra College for girls, and then passed on to the classes for women at Trinity College, obtaining in 1880 a certificate of honours in languages and botany, and in 1882 a like certificate and also the prize in mathematics. In 1884 she graduated as Bachelor of Arts at the Royal University of Ireland, and devoted her energies for some years to teaching Latin and mathematics in schools for girls. The death of her mother in 1887 called her to fill a vacant place at home with a brother and sister. Domestic duties, however, did not absorb all her time, for she obtained the degree of Master of Arts in 1889 at the Royal University of Ireland. Her attention was then directed by an eager friend to the medical profession, and her energies found new paths in working for a medical degree. In 1894 she graduated as Bachelor of Medicine, Obstetrics and Surgery, and was also Licentiate of Midwifery. The death of the brother with whom she lived severed her last tie to Dublin, and at the invitation of another brother she came to Bristol, where members of her family were widely known and esteemed.

Dr. Eberle threw herself with much energy into medical practice. She joined the Read Dispensary Staff, opened also a dispensary at Bedminster for a few months, and accepted service at the Bristol Private Hospital, which was opened in December, 1895. She applied for and obtained in 1897 the post of Assistant Surgeon at the Hospital for Children and Outdoor Treatment of Women, to which appointment was attached the condition of acquiring within a year the Fellowship of a College of Surgeons. This condition she successfully accomplished at the Royal University of Ireland. At the Children's Hospital she attracted a large number of patients, and also much of the gynæcological out-patient work was handed over to her.

As private practice increased it became necessary to curtail her public service, and she resigned her post at the Children's Hospital, retaining her visiting days at the Read Dispensary and her post at the Bristol Private Hospital.

Dr. Eberle brought to her medical practice quick intelligence, uncommon energy, a power of lively sympathy and good business ability. She concentrated all her powers upon her profession, and passed laborious days devoted to it alone, knowing little or nothing of pleasures outside those of the family circle. Her sympathy and interest in the sick never flagged, and ailing women of all classes and from a wide area availed themselves in a large number of her medical help, given with ungrudging expenditure of time, thought and warm sympathy.

Her colleagues of the Read Dispensary and Private Hospital for Women lament the loss of the single-eyed devotion and alert intelligence which she brought to her work, and know that their loss will not be easily repaired.

HERBERT ASTLEY KNIGHT, M.B., B.Ch., F.R.C.S. Edin., D.P.H., I.M.S.

We regret to record the death of Herbert Astley Knight, M.B., B.Ch., F.R.C.S. Edin., D.P.H., of the Indian Medical Service. He was stricken by cholera while on duty in Mooltan, India, in the first week of September, and died in a few hours. He was only 28. After finishing at the Royal High School, Edinburgh, he entered Edinburgh University in 1896. In 1902 he graduated, and in 1903 took the Diploma of Public Health. For two years he was House Surgeon in Weston-super-Mare, and for one year was House Surgeon to Bristol General Hospital. In 1906 he received a Fellowship of the Royal College of Surgeons of Edinburgh, and in the same year entered the Indian Medical Service. He was first stationed at Poona, and later transferred to Ambala, where he was put in charge of the Brigade Laboratory for the

Prevention of Disease. The Indian Government had in contemplation to appoint Lieutenant Knight when he would have attained his captaincy, a few months hence, to do special sanitary work in the Bombay Presidency.—*Medical Press and Circular.*

The fellow-students and friends of Dr. Knight in Bristol will receive the above information with much regret.

Local Medical Notes.

BRISTOL.

University College.—The following examinations have recently been passed :—

F.R.C.S. EDIN.—J. H. Board, W. W. King.

CONJOINT BOARD.—*Biology :* R. I. Dacre. *Chemistry :* C. Kingston. *Physics :* R. I. Dacre, C. Kingston, A. G. Morris. *Pharmacy :* W. Worger, B. G. Derry, H. H. Templeton. *Anatomy and Physiology :* T. E. Ashley. *Surgery :* E. E. Davies,* E. R. Sircom.*

L.D.S. ENG.—*Chemistry and Physics :* P. L. Ealand, B. L. Morgan, C. V. Osborne.

R.A.M.C.—G. S. Parkinson, M.R.C.S.Eng.

Captain F. Percival Mackie, F.R.C.S., of the Indian Medical Service, and assistant in the Bombay Bacteriological Laboratory, has been selected by the Government of India to join Sir David Bruce's expedition, which is on the way to Uganda to investigate further the disease known as "sleeping sickness." Dr. Mackie was formerly House Surgeon at the Eye Hospital, Bristol, also Assistant House Physician at the Bristol General Hospital, and Medical Superintendent at the Ham Green City Hospital.

Bristol Royal Infirmary.—The following appointments have been recently made :—*House Surgeon and Senior Resident Officer :* Hubert Chitty, M.S.Lond., F.R.C.S. *Casualty Officer :* E. W. Squire, M.B., B.S.Lond. *Assistant Anæsthetist :* Leonard A. Moore, M.R.C.S., L.R.C.P.Lond. *Medical Registrar :* Cyril Claude Lavington, M.B., B.S.Durh. *Dental Anæsthetist :* J. F. Blackett, M.B., B.S.Lond.

Bristol General Hospital.—The following appointments have been recently made :—*Honorary Skiagraphist :* John Ellington Jones, L.R.C.P.Lond., M.R.C.S., L.S.A. *Assistant Skiagraphist :* Frank Gower Bergin, L.R.C.P.Lond., M.R.C.S.

* Denotes qualification.

The half-yearly meeting of the General Board of this Hospital was held on Monday, September 14th, Mr. J. Storrs Fry being in the chair. The Chairman in his remarks said that the position of the institution was, on the whole, not so satisfactory as could be wished, for there was a considerable falling off in the receipts, while the expenditure had also increased, arising from the increased cost of provisions and a greater expenditure in coal and medical and surgical sundries. There had been an increase in the number of out-patients, and this had entailed increased cost. The addition to the nurses' home was now complete and in occupation, and was proving of great value. An addition had been made to the dental department, and probably further rooms would be required soon. Mr. Hare gave further details of the increased cost, and said that the total excess of expenditure over last year was close on £670, and the decrease in the receipts was £900, so that they were behind last year by a large sum. In the out-patient department there had been an increase of 2,158, the total being the large number of 19,059, but he did not know whether this was due to the distress among the working classes. An alteration in the rules was made, adding a skiagraphist to the Staff.

Bristol Dispensary.—James Francis Blackett, M.B., B.S.Lond., and H. Finzel, M.D.Lond., have been appointed Medical Officers.

Cossham Memorial Hospital.—E. V. Connellan, M.R.C.S., L.R.C.P., has been appointed House Surgeon.

Children's Hospital.—J. A. Brydon, M.B., Ch.B.Edin., has been appointed Junior House Surgeon.

Müller's Orphanage Homes.—Elliott Thornton Glenny, M.B., B.S.Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer.

Queen Victoria Jubilee Convalescent Home, Durdham Downs.—A bronze tablet has recently been placed in the entrance lobby of this institution. It bears the following inscription :—

> "In honour of Her Gracious Majesty Queen Victoria ; in memory of a Beloved Wife ; and in sympathy with the suffering, this house was given by Sir E. P. Wills, for a Convalescent Home, on the occasion of the 60th Anniversary of Her Majesty's Accession, June 20th, 1897, and the Home was opened by Her Majesty, on November 15th, 1899. A.D. 1908."

This Convalescent Home is doing excellent work, and since its opening 12,400 patients have been admitted.

The late Dr. Emily E. Eberle, of Clifton.—As a memorial to the late Dr. Emily Eberle, a free bed bearing her name is to be placed at the Private Hospital for Women, Berkeley Square, Clifton.

Royal Territorial Medical Service.—The *London Gazette* of September 29th contained the list of *à la suite* officers of the various Territorial Hospitals. The following list will be of interest in this district :—

SECOND SOUTHERN GENERAL HOSPITAL.—The following to be officers whose services will be available on mobilisation, Sept. 30th, 1908: To be Lieutenant-Colonel—R. S. Smith, M.D., E. C. Board, J. M. Clarke, M.D., and G. M. Smith. To be Majors—A. B. Prowse, M.D., F.R.C.S.Eng., J. Swain, M.D., F.R.C.S.Eng., G. Parker, M.D., C. A. Morton, F.R.C.S.Eng., P. W. Williams, M.D., R. G. P. Lansdown, M.D., C. H. Walker, M.B., F.R.C.S.Eng., and W. R. Ackland. To be Captains—F. H. Edgeworth, M.D., J. L. Firth, M.D., F.R.C.S.Eng., J. O. Symes, M.D., T. Carwardine, M.B., F.R.C.S.Eng., J. Taylor, H. G. Kyle, M.B., C. F. Coombs, M.D., H. F. Mole, F.R.C.S.Eng., E. C. Williams, M.B., E. W. H. Groves, M.D., F.R.C.S.Eng., J. M. Fortescue-Brickdale, M.D., E. H. E. Stack, M.B., F.R.C.S.Eng., J. Freeman, M.D., F.R.C.S.Edin., J. Dacre, J. J. S. Lucas, M.D., H. E. Harris, M.B., F.R.C.S.Eng., W. Cotton, M.D., H. Hill, M.D., and W. S. V. Stock, M.B.

Recruits, who will be trained in hospital duties, are wanted for a General Hospital in Bristol. Men who take an interest in military matters, and especially in ward work and hospital nursing, are invited to take this opportunity of doing good service for their country by joining. They must be between the ages of 17 and 35.

J. PAUL BUSH, C.M.G., *Administrator.*

BATH.

Bath Eye Infirmary.—E. Daubney Hancock, M.R.C.S., L.R.C.P., has been appointed Honorary Surgeon.

The Winsley Sanatorium for Consumptive Patients.—The quarterly meeting of the Board of Governors of the Winsley Sanatorium was held at Bristol on September 16th, under the presidency of Dr. R. Shingleton Smith. It was decided to admit patients from outside the counties of Gloucester, Wilts and Somerset on payment of two guineas weekly, so long as beds were available without depriving patients within the three counties. The medical officer of the institution having resigned, it was decided to advertise the appointment, the salary to be £200 per annum, rising by £20 a year to £300. The financial position of the Sanatorium was carefully considered, and it was stated that an additional income of £600 a year was required.

Leonard Crossley, M.D., Ch.B.Edin., has been appointed Resident Medical Officer.

CARDIFF.

The Cardiff Infirmary.—Colonel Bruce Vaughan, Chairman of the House Committee of the Cardiff Infirmary, announced at the meeting held on September 16th, that an anonymous gift of £10,000 had been received from a Glamorganshire coal owner towards the new wing. An effort is being made to raise an additional income of £7,000 per annum, and last May Mr. J. Cory promised to add 25 per cent. to all sums received. In response a Welsh colliery owner sent £1,000, Mrs. J. Nixon sent 10,000 guineas, Mr. H. Webb subscribed £3,000, and another £1,000 was contributed anonymously. The latest gift brings the total to £25,700.

DEVON.

The Health of North Devon in 1907.—Dr. E. J. Slade-King in his summary of the reports of the medical officers of health of North Devon for 1907, which he has just presented to the Devon County Council, states that on an estimated population of 146,775 the death-rate was 14.3, compared with 13.7 in 1906. The annual death-rate per 1,000 births under one year of age was 104; in 1906 it was 98.7. Ninety-six deaths occurred from zymotic diseases, giving a death-rate of 0.7 per 1,000. Six deaths were due to enteric fever. 467 cases of infectious disease were notified, against 430 in 1906. 101 deaths were due to pulmonary tuberculosis, equal to a death-rate of 0.6 per 1,000; in 1901 there were 150 deaths from this disease, and in 1906 the number was 123. 121 deaths were caused by cancer, compared with 123 in 1906. The birth-rate was 19.7 per 1,000, as against 21 per 1,000 in 1906.

Hospital Saturday at Newton Abbot.—£274 were collected recently in Newton Abbot for the Hospital Saturday Fund. This is £54 in excess of any previous Hospital Saturday collection.

Hospital Sunday at Exeter.—October 18th, St. Luke's Day, was celebrated as Hospital Sunday at Exeter Cathedral, when collections were made for the Royal Devon and Exeter Hospital. The Committee, Staff and Governors of that institution met the mayor and other representatives of civic bodies at the Guildhall and walked in procession to the cathedral to attend the afternoon service.

LYDNEY.

New Hospital for Lydney (Gloucestershire) and District.—On September 24th, Sir Charles Dilke, M.P., in the presence of a large gathering, formally opened the new hospital for Lydney and district. The building comprises two wards of four beds each, operation theatre, dispensary, &c. The site was given by Mr. C. Bathurst, and Mr. R. Thomas has defrayed the whole cost of

building the hospital. Mr. Bathurst suggested as a means of providing an "Endowment Fund," that if the public would subscribe £800 for this purpose, by the time the hospital was completed, he would make the sum up to £1,000. The public has responded to the appeal, and there is no doubt that the required amount will be raised.

TAUNTON.

Over £100 were raised as a result of the Carnival recently held at Taunton. After payment of expenses, £5 of this will be given to the Bristol Eye Infirmary, and the remainder will be divided between the Taunton and Somerset Hospital and the Taunton and District Nursing Association.

WESTON-SUPER-MARE.

Weston-super-Mare Hospital.—The annual house-to-house collection by members of the local friendly societies, which was recently held at Weston-super-Mare, resulted in £52 being raised for the funds of the Weston-super-Mare Hospital.

National Association for the Feeble Minded : Bristol Meeting.—Conferences of the After-Care Committees and of the National Special Schools Union.—The judicious care of the feeble-minded is of such far-reaching and national importance, that the recent Conference in Bristol on the subject merits the earnest attention of all medical practitioners. The Conference was largely attended, and included several of our profession from a distance, together with many others engaged in the practical work of the societies concerned.

Public opinion in reference to the treatment of the mentally defective is at present ill-informed. There are people who recommend the sterilisation of these children in early life, as the only adequate means of preventing the perpetuation of the evil. But as we do not seem to be within measurable distance of this proceeding, it will be well for us to determine what is the best possible thing in the immediate future.

The necessity of detaining, under proper control, persons suffering from lunacy of a nature which renders them dangerous to themselves or to the community is universally recognised. Those other forms of mental aberration in which the danger, although not so obvious, is none the less real, should be dealt with by legislation, and the most hopeful results can only be attained by detention in suitable residential institutions.

The good results of work in this direction are admirably set forth in the Ninth Annual Report, 1907, of The Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-Minded, of which Miss Mary Dendy, of 13 Clarence Road,

Withington, Manchester, is the honorary secretary. Voluntary effort such as this is, however, hardly to be expected in less wealthy districts, in which practical difficulties, well-nigh insuperable, would present themselves. But the report mentioned is worth the careful reading of anyone interested in the subject.

The members of the Conference were welcomed on Thursday, October 22nd, 1908, by the Chairman of the Bristol Education Committee, Dr. E. H. Cook, who called attention to the great importance of the matters that would come before them, emphasising the need not only of suitable instruction for the physically and mentally defective during school life, but also the necessity of placing the children in the time immediately afterwards in homes where they could be properly trained. After-care committees had been formed in several of the large towns, and Bristol had been active in the voluntary work of doing the best for these children under existing circumstances.

Sir William Chance, the Chairman of the National Association, gave statistics of the work done by the After-Care Committees, and alluded to the recent Report of the Royal Commission, which should be exceedingly useful to these voluntary committees, and should give them much encouragement in their efforts.

On the same day the following papers were read and discussed :—

"The Permanent Care of Defectives." Mr. J. S. Legge, Director of Education at Liverpool, and late H.M. Inspector of Industrial and Reformatory Schools.

"The Care of Defectives in Workhouses." Mr. J. J. Simpson, Clerk to the Bristol Board of Guardians.

"The Detection and Treatment of the Feeble-Minded." Dr. W. R. Dawson, late Examiner in Mental Diseases, Dublin University.

"The Care and Treatment of Epileptics." Dr. W. A. Turner, Chalfont Colony, St. Peter's, Buckinghamshire.

In the evening Dr. Frederic Rose, Assistant Educational Adviser to the London County Council, gave a lantern lecture on "Open-air Schools." These were first established in Germany. The London County Council have three such schools, and Bradford has one. It is claimed that under this arrangement the children show physical, educational and moral improvement in a marked degree.

On Friday morning members assembled in large numbers at Redcross Street School to inspect the physically and mentally defective classes which are held there, and then returned to the other work of the Conference, when Mr. C. E. H. Hobhouse, M.P., who is the President of the National Special Schools Union, and was a member of the Royal Commission, gave an address on the Report, which he said revealed the gravity and the complexity of the problem which confronted them, and that

although there were certain voluntary agencies looking after some of these unfortunate beings at the critical period of their leaving school, yet the greater portion of them were entirely unhelped and uncontrolled. The permissive Act of 1899 had not fulfilled expectations. One serious defect in it is that it brings the training to an end just at the most dangerous period of the defective child. At no distant date the problem of how to deal adequately with these young people must be grappled with, and it seemed clear that there would have to be but one authority, which at all stages of life, and for all purposes of training or of education, should be responsible for all restraint, and should be able to provide for all development, so that no longer should these unfortunate people be at large in the world, a danger and a nuisance to themselves, a burden and a grievance to the community, and a source of unnecessary anxiety and expense.

The papers for the day were :—

"The Outlook for Special Schools in London." Mrs. Burgwin, London.

"The Special Value of Residential Institutions in the Training of Defective Children." Mr. C. H. Wyatt, Director of Elementary Education, Manchester.

"The Classification of Mental Deficiency in Relation to School Work." Dr. T. M. Carter, Bristol.

"Methods of Teaching Defective Children." Miss Brookes, Wolverhampton Special School.

On Saturday the papers were :—

"The Result of Deafness on Education." Dr. T. A. Green, Bristol.

"Schools for Physically Defective Children." Miss Collard, Assistant-Superintendent of Physically Defective School, London County Council.

"The Training of Epileptic Children." Mr. A. E. Lewis, Head Master of Lingfield School for Epileptic Children.

Naturally the greater consideration of the Conference was given to the mentally defective, as it is with them the principal difficulties lie. But the physically defective require most careful training in order to enable them to do something substantial, if not everything, towards supporting themselves when they leave school. The discussions were well maintained, and the whole proceedings were excellently reported in the local papers.

The social side of the occasion was well managed. On Thursday evening the representatives were entertained by the Local Committee at University College, and on Friday evening the Lord Mayor gave an admirable reception in our well-equipped Museum and our attractive Art Gallery. The Local Committee, in whose hands the arrangements were, was a representative one, with Dr. T. M. Carter as its Chairman, Mr. Clark its Treasurer, and Miss Townsend and Miss Waring Adams its Secretaries.

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